IN THE HIGH COURT OF SOUTH AFRICA
[EASTERN CIRCUIT LOCAL DIVISON, WESTERN CAPE, GEORGE]

Case no: 5560/2019
(H 82/2018)

In the matter between:

M… L…… Plaintiff

and

DR FRANCOIS VILJOEN VAN DER MERWE Defendant

JUDGMENT DELIVERED (VIA EMAIL) ON 7 MARCH 2025

SHER J:

1. The plaintiff claims damages from the defendant, a specialist gynaecologist and obstetrician, following a surgical procedure which was performed laparoscopically on 19 April 2016, during which cystic masses around her ovaries were removed together with her right ovary. It is common cause that as a consequence of the procedure she sustained a perforation in the dome of her bladder, which was repaired surgically on 4 May 2016. How the perforation was caused and whether it was ascribable to any negligence on the part of the defendant are the issues that require determination. By agreement between the parties the quantum of the claim stands over for later determination.

The background

(i) <u>The pleadings</u>

2. In her original particulars of claim the plaintiff alleged that the defendant had breached an express alternatively implied, alternatively 'incorporated' (sic) term of the agreement which the parties had entered into, in terms of which he undertook to treat, advise and attend to her health care needs with that standard of care and professional proficiency as would be expected of a surgeon in his position.
3. In the alternative the plaintiff sued on the basis of a delictual claim founded on an alleged 'duty of care' which the defendant had, in similar terms, which he allegedly breached in that he had been negligent in one or more diverse ways, in his use of a surgical instrument known as a LigaSure Atlas, when separating and dissecting adhesions between loops of bowel and the plaintiff's anterior abdominal wall. In this regard it was alleged that the defendant failed to realise that the instrument should not have been used in the 'prevailing circumstances' and in the proximity of 'structures' that could be damaged by the heat generated by it, and failed to foresee that its use could damage the plaintiff's bladder. It was further alleged that the defendant had been negligent in failing to remove a loop of bowel which he had separated, and in failing to subsequently assess the plaintiff and to act promptly, after she complained of severe pain on 3 May 2016, and wrongly accepted the diagnosis (made by a casualty officer on her return admission to hospital), that she was suffering from a spastic colon or constipation. Consequently, due to the aforesaid negligent and wrongful conduct of the defendant, the plaintiff had sustained a perforation of her bladder which resulted in the leakage of urine into her abdominal cavity, which had to be repaired surgically.
4. As a result of these facts and circumstances the plaintiff suffered pain and discomfort and was unable to work for a period of 5 weeks and would be unable to work for a further period of 3 months following future treatment which she required; and therefore had a claim for general damages, past and future loss of earnings, and past and future medical expenses.
5. Some 3 years after the issue of summons the plaintiff amended her particulars of claim to allege that instead of a LigaSure Atlas the defendant had made use of a LigaSure Maryland during the operation. In addition, the plaintiff amplified the grounds of negligence she relied upon *inter alia* by averring that the defendant had failed to identify or to 'correctly' identify the various

structures/organs from which he attempted to separate the loop of bowel, had failed to ensure that damage or injury was not caused to her bladder in the 'vicinity' of where he used the LigaSure, and had failed to appreciate that using it might cause an injury that would not be apparent or detectable and which could result in avascular necrosis to the bladder and a leak into the peritoneal cavity.

6. The plaintiff further alleged that, given the presence of several adhesions in her peritoneal cavity involving her bowel, bladder, vaginal vault and anterior abdominal wall, the defendant had been negligent in failing to convert the laparoscopy to a laparotomy (an open surgical procedure performed by way of an incision into the abdomen). Lastly, in her amended particulars of claim the plaintiff deleted her previous allegations that the defendant had acted negligently by failing to remove the loop of bowel which he had separated, accepting the diagnosis which was made by the casualty officer on her emergency admission on 3 May 2016, and failing to act 'promptly' in respect thereof.

(ii) The expert reports

7. The plaintiff engaged two experts to assist her: Dr Hendrik Cronje, a specialist gynaecologist and obstetrician and retired professor and head of the Department of Obstetrics and Gynaecology at the University of the Free State, and Dr Bastiaan Pienaar, a retired former senior lecturer and head of the Colorectal, HPB and Laparoscopic Surgery Unit at the University of Pretoria. The defendant in turn made use of the services of Dr Daniel Fölscher, a practising specialist general surgeon with a particular interest in laparoscopic, thoracic and hernia surgery, and Dr Peter De Jong, a practising specialist obstetrician and uro-gynaecologist.

8. The plaintiff's experts each filed 2 sets of expert reports: Dr Pienaar in March 2019 and July 2021, and Prof Cronje in August 2019 and May 2022. In his first report Prof Cronje pointed out that the laparoscopic removal of an ovary in a patient who has had a previous hysterectomy is a high-risk operation for complications because, due to the previous surgery there are often adhesions present in the pelvis, which are formed during the healing process and the formation of scar tissue, as a result of which organs such as the bowel may become stuck to other organs such as the bladder, vagina and/or the ovaries,

which are often tightly adherent to the pelvic sidewalls, and in separating these adhesions an injury or damage to the organs involved is more likely during laparoscopic surgery than during 'open' surgery i.e. during a laparotomy.

9. Prof Cronje and Dr Pienaar were agreed that the removal of the plaintiff's right ovary was indicated, given the large cystic mass around it. In this regard it was evident from the medical records which were introduced into evidence that in April 2016 the plaintiff attended on a surgeon, Dr M Nel, with complaints of chronic epigastric i.e. abdominal pain. An ultrasound scan which was performed on 13 April 2016 reflected the presence of a large, complex cystic mass measuring some 36 mm in diameter, and a smaller simple cyst of 15 mm, around the right ovary, as well as a thin-walled, single cyst of 17 mm around her left ovary, which required histological analysis, to rule out the presence of cancer. The plaintiff was referred by Dr Nel to the defendant and he saw her on the same day that the ultrasound was performed. In his report of his consultation he noted that she was 52 years old at the time, had given birth twice via caesarean section and once by way of normal delivery, and some 10 years earlier had undergone a hysterectomy, at which time her uterus had been removed but not her ovaries. The defendant advised that both ovaries and the cysts surrounding them should be removed and sent for histological analysis, which advice the plaintiff accepted, and she was admitted by the defendant to the Geneva Clinic in George, on 19 April 2016.

10. In their first reports Prof Cronje and Dr Pienaar noted that, from the file note which the defendant made on the day of the operation it was apparent that he had used a LigaSure device to dissect adhesions, and to separate organs which were adhered to one another and the abdominal wall. Although he had not specified the model he had used, from the photos which he produced (which were taken during the procedure) it seemed to them that it was a LigaSure Atlas, a bipolar cautery instrument which they both considered to be wholly inappropriate for the purpose.

11. Dr Pienaar was highly critical of the defendant's use of such a device, which has jaws which are 10 mm i.e. 1 cm wide, and which is used during laparoscopic and abdominal surgery to cauterize and seal blood vessels of up to 7 mm in diameter. Sealing occurs through thermal energy i.e. heat which is generated in the jaws, which causes retrograde clotting and bonding of the tissue layers

which have been gripped. Although the LigaSure Atlas does have a cutting function as well, it is not designed for use as a general dissection device.

12. Thus, in Dr Pienaar's view, to dissect the adhesions which the defendant encountered, particularly the one involving a loop of bowel that was adhered to the abdominal wall, the defendant should have made use of ordinary scissors or a cautery hook. Failing this, the use of a LigaSure Maryland, which had a smaller, 7 mm curved jaw and built-in scissors and could be used for sharp dissection in laparoscopies or open surgery, would have been 'more appropriate', although extreme care should have been exercised when using it to dissect 'thin-walled structures'. In such instances only its scissor function should have been activated and not its cautery function.

13. Consequently, in his view the use of a LigaSure Atlas to dissect adhered small bowel loops from the plaintiff's anterior abdominal wall or bladder dome was wrong. In addition, it was the view of Dr Pienaar that the defendant should not have left the loop of bowel which he separated, in the abdominal cavity, as it put the plaintiff at risk for an internal hernia in the future.

14. According to Prof Cronje, whilst the use of a LigaSure Atlas was 'fine' for laparoscopic surgical procedures involving the removal of organs such as the uterus and 'uncomplicated' ovaries, unlike the smaller LigaSure Maryland (which is used both to dissect adhesions and seal blood vessels) it was not the 'ideal' instrument to use in the case of the plaintiff, where the adhesions in her abdominal cavity were close and tight, and there was minimal space between them and the organs they were stuck to. Using a LigaSure Atlas in such circumstances would result in thermal damage to adjacent organs, such as the bladder.

15. In his second report Dr Pienaar noted that after they had received a set of further photographs from the defendant it appeared that he had in fact made use of a LigaSure Maryland and not a LigaSure Atlas. However, this did not cause Dr Pienaar to alter his original opinion that the use of a heat-generating sealing device such as a LigaSure, to dissect adhesions of loops of small bowel from the plaintiff's anterior abdominal wall, was inappropriate.

16. In his second report Prof Cronje pointed out that, unlike the LigaSure Atlas, the LigaSure Maryland cauterises small blood vessels within an adhesion whilst simultaneously dissecting it. Contrary to Dr Pienaar, he was of the view that the

defendant could use a LigaSure Maryland to separate the adhesions between the plaintiff's bowel and bladder and was correct in making sure that, when doing so he stayed away from the bowel. However, unless he was sure that in doing so the bladder wall would not be damaged by the cauterisation process, he should not have activated it.

17. In his view, from the defendant's operation note of 19 April 2016 it seemed that in trying to avoid damaging the bowel, which was on one side of an adhesion (a bowel perforation is a serious, potentially mortal complication as it results in faecal contamination of the abdominal cavity), when dissecting it the defendant had moved the LigaSure 'too close' to the other side of it and, in doing so, had 'pulled' the bladder wall into its jaws. As a result, the cauterisation which was applied extended into the bladder wall. The resultant damage caused reduced vascular perfusion in the blood supply to the area which, in turn, led to a breakdown of tissue in the bladder wall, which resulted in avascular necrosis, and a perforation in the bladder.

18. In addition, the fact that according to the operation note of Dr Nel, who repaired the bladder, the perforation was 3 cm long, indicated that the defendant had probably clamped and burnt the area concerned more than once. In this regard it seems, as was later confirmed in his evidence, that he based this assumption on the fact that the LigaSure Maryland has a thermal spread of about 4.5-5mm across its jaws and an additional lateral thermal spread of 1-2 mm on either side of them i.e. a thermal footprint of approximately 8 mm, in total.

19. As for the defendants' experts, in his first report of April 2019 Dr De Jong also assumed that a LigaSure Atlas had been used, but in his view, its use was 'entirely appropriate" for the type and scale of the operation, as its lateral thermal spread was less than 1 mm. There was therefore no reason why it could not be used in bowel and bladder adhesion dissection. In his view, the use of other bipolar cautery devices instead of a LigaSure would probably have hastened the necrosis which occurred. In this regard he agreed that the injury which plaintiff sustained to her bladder was caused by avascular necrosis, following a reduction in vascular perfusion (blood supply) to an adjacent area on the bladder wall, after cautery was applied during an adhesiolysis.

20. In his second report, which was filed in November 2021, Dr De Jong confirmed (after considering the additional documentation which had been discovered by

the defendant, including further photographic images taken during the laparoscopy), that the defendant had used a LigaSure Maryland and not a LigaSure Atlas. He was nonetheless of the view that the surgical technique which the defendant employed in using the LigaSure Maryland to dissect and separate the adhesions which he encountered, had been appropriate and reasonable. The adhesion between the small bowel and the bladder which he dissected was clearly identifiable and visible, and it contained a blood vessel which required sealing to avoid bleeding after it was dissected. The safest instrument to use for this purpose was the LigaSure Maryland, as it had less thermal spread compared to most other cautery devices and was an instrument that was designed, and which was widely used, laparoscopically, in abdominal and pelvic procedures, for dissecting adhesions and sealing blood vessels. A bipolar cautery device was not appropriate for such purposes as it had a larger thermal footprint and would likely have caused greater thermal damage had it been used. Likewise, mono- or unipolar devices also had a significant lateral thermal spread and should consequently not be used to dissect adhesions adherent to bowel. In fact, according to Dr De Jong such devices have not been used in pelvic surgery for many years. Finally, Dr De Jong pointed out that avascular necrosis was a complication that could occur in the best of hands, notwithstanding the employment of the best possible surgical techniques.

21. In his report Dr Fölscher pointed out that, as a general surgeon with a special interest in laparoscopic surgery, and as past President of the SA Society for Endoscopic Surgery, he had been involved in the development of training courses in advanced laparoscopic surgery for the SA Society of Obstetricians and Gynaecologists, and had presented such courses for the Royal College of Surgeons in the UK. He had performed many laparoscopic surgeries which required adhesiolysis in the pelvis and the abdomen.

22. Dr Fölscher endorsed the views expressed by Dr De Jong and agreed with his opinion that the techniques which the defendant employed whilst using the LigaSure Maryland were appropriate and reasonable. He also agreed with Dr De Jong's view that though there were several adhesions in the plaintiff's abdominal cavity, there was no need to convert the laparoscopy to an open procedure i.e. a laparotomy. He also supported the view expressed by Dr De Jong that adhesiolysis in the abdominal cavity during a laparotomy can be more

difficult due to decreased visibility (when compared with the detailed, close-up visibility a surgeon has via a laparoscope during a laproscopy) and is more risky for the patient as it can result in increased blood loss and a higher incidence of repeat adhesions, wound infections and incisional hernias. Dr Fölscher also endorsed Dr De Jong's opinion in relation to the use of other cautery devices, all of which in his view involved a greater risk of thermal damage.

(iii) The joint minutes

23. Three sets of joint minutes of the experts were filed: the first, dated 23 October 2019, was a minute of a teleconference which was held between Prof Cronje and Dr De Jong, the second was a minute of the meeting which was held on 19 March 2020 between both of the plaintiff's experts and Dr De Jong, and the third, which was styled a 'consensus document', dated 28 July 2022, was a minute of the discussions which were held by all 4 experts, between 25 and 27 July 2022.

24. The first minute recorded that the only point of dissent between Prof Cronje and Dr De Jong (and Prof Cronje's 'chief point of concern') was the use of a 10 mm LigaSure (i.e. a LigaSure Atlas), during the operation, which Prof Cronje felt was not appropriate as, according to the literature it had a total thermal 'spread' of 11.35 mm, and he was of the view that the use of a '5 mm LigaSure' (i.e. a LigaSure Maryland) would have been safer, as its thermal damage footprint was approximately 5.85 mm.

25. The second minute contained a more extensive and detailed note of various points which were covered by the plaintiff's experts and Dr De Jong, who were all agreed that, given that the leakage of urine from the bladder into the abdominal cavity most likely started a day or two before the plaintiff's re-admission on 3 May 2016, the perforation of her bladder must have occurred approximately 11 days after the laparoscopy, as a result of avascular necrosis in an area on the dome of the bladder. However, notwithstanding that the experts were agreed that the perforation occurred because of avascular necrosis (and presumably because of their continued assumption that a LigaSure Atlas was used), the plaintiff's experts expressed the view that it would have been 'relatively easy' for the defendant to pull part of the bladder into its jaws, thereby causing the damage which occurred, whilst Dr De Jong disagreed, pointing out that this was inconsistent with the conclusion that the

bladder damage occurred 11 days post-surgery, due to avascular necrosis. Dr De Jong pointed out that if the bladder wall been pulled into the jaws of the LigaSure bladder damage and leakage would have been 'immediate'.

26. The third joint minute was compiled by the 4 experts to address, in point form, each of the grounds of negligence set out in the plaintiff's amended particulars of claim. The experts were by then all in agreement that a LigaSure Maryland could be used to separate and dissect the adhesions in the abdominal cavity. However, the plaintiff's experts still maintained that it was not used appropriately and, according to Prof Cronje, since the perforation in the bladder was 3 cm i.e. 'quite large', a piece of the bladder must have been pulled into the LigaSure's jaws, whilst Dr Pienaar was of the view that, given the size of the perforation the defendant must have applied the device more than once against the bladder, or the bladder was 'partially pulled' into its jaws.

The evidence

27. A total of 7 witnesses testified: 4 for the plaintiff and 3 for the defendant. Prior to the commencement of evidence the plaintiff handed in 2 trial bundles that were to be referred to by the parties. Bundle 1 (exhibit A) contained copies of the *curricula vitae* and reports of the experts and the joint minutes which they compiled, together with various documents that were drafted by the defendant. These included 1) the letter he sent to the referring doctor (Dr Nel) on 13 April 2016, in which he set out a note of his consultation with the plaintiff and his advices to her 2) his file note dated 19 April 2016 which set out his report of what transpired during the operation which he performed on the plaintiff (a copy which was also bound in the second bundle as exhibit F), and 3) a second file note dated 5 May 2016 in which he set out a further report of the operation and of the events which transpired thereafter, including the plaintiff's admission on 3 May 2016 and the laparoscopic procedure which was performed on her by Dr Nel, which he attended.

28. The second bundle (which was marked exhibit B) contained copies of a series of 31 photographs which were discovered by the defendant, in batches, in November 2018 and October-November 2020, to which were added a series of sketches which Prof Cronje prepared for use in evidence. These included 1) sketches of transverse views of a 'normal' i.e. un-operated anatomy of a female pelvis and the 'distorted' anatomy of one after abdominal and pelvic surgery

involving so-called caesarean sections (or, as it is more properly known, Pfannenstiel incisions), and a hysterectomy in which the uterus has been removed (exhibits C1-C2, a further marked set of which was also bound into bundle 2 as exhibits H1-H2); and 2) sketches depicting the position of the adhesion between a loop of small bowel and the anterior abdominal wall/peritoneum, which the defendant separated and dissected (exhibits D1, D2 and E2) and 3) a sketch depicting the position of the incisions which were made in the plaintiff's abdomen for the placement of ports for the laparoscope and working instruments (exhibit E1). Finally, a separate copy of the photograph exhibit B14, as marked during evidence to show the presence of the blood vessel which the defendant ligated when performing the adhesiolysis to separate the loop of small bowel from the anterior abdominal wall, was also bound into the bundle (as exhibit G).

(i) <u>The plaintiff and her husband</u>

29. In her evidence the plaintiff confirmed the details of her medical history as recorded by the defendant. At the time she consulted him she was working as a teacher at a school in George. The defendant informed her that she had cysts on both ovaries which would have to be removed and sent for histological analysis. As she only had a limited amount of leave, she elected to have the procedure done on 19 April 2016 so that she could recuperate during the school holiday. After the operation the defendant did not come to examine or speak to her while she was in the ward, and did not inform her what he had 'found out' during the operation. He also did not phone her to find out how she was doing while she was recuperating at home.

30. At the outset of her evidence in chief she said that she did not start to 'feel bad' immediately after the operation and was only troubled by pain she had in her left shoulder, which went away after a day or so. When she got home from the hospital she took to her bed to recuperate. But, contrary to her earlier evidence, she then said that she did not feel at all well after she got home: she had 'severe' abdominal pain and 'battled' to urinate, and she started to vomit.

31. Her symptoms 'increased', and from the Saturday (30 April) she was in severe pain. She returned to work on the Tuesday (3 May). While she was in her classroom teaching, she collapsed and was taken to hospital by ambulance. Dr Nel later came to inform her that an ultrasound had revealed the presence of

fluid in her abdomen, and he needed to assess what was causing it. She was booked in for a laparoscopy the following morning, 4 May 2016. While she was lying on the trolley outside the theatre the defendant arrived. She told him that she did not want him there, and he left. While she was recuperating in the ward, after the operation, the defendant came to her and told that he was sorry, as he might have injured her bladder during the operation he performed on her.

32. In cross-examination it was pointed out to the plaintiff that, contrary to her evidence on this aspect, according to the hospital's records she had complained of experiencing acute and severe pain on the morning she was admitted, which she had said had started the previous night. In response she maintained that from the time she had been discharged from the hospital she had not felt well and had experienced pain, which had increased,

33. It was also put to her that, contrary to her evidence the defendant had seen her while she was still in hospital, prior to her discharge, and had spoken to her. He had noted from the medical records that she had passed urine and had consequently directed that she be discharged. Contrary to her earlier evidence, she then conceded that this may have happened but still denied that the defendant had also phoned her a few days later, while she was convalescing at home.

34. In his evidence the plaintiff's husband said that whilst he was waiting outside theatre on 4 May 2016 the defendant emerged and took him to his consulting room, where he told him that the operation which he had performed on the plaintiff had been 'very difficult' as she had a lot of adhesions, and he might have damaged her bladder, and he apologised for this.

(ii) <u>The defendant's file notes</u>

35. Before setting out a synopsis of the evidence which was tendered by the experts and the defendant, it will be useful to set out what the defendant said in his file notes of 19 April and 5 May 2016, which were accepted into evidence, insofar as this pertains to his conduct during the operation, and formed the context and basis against which the experts expressed their respective opinions. In doing so I have translated excerpts of his original (typed) notes, which were written in Afrikaans, into English.

36. In his principal file note of the operation, dated 19 April 2016 (exhibit F), the defendant recorded that after the plaintiff was sedated and her bladder emptied

she was placed in a semi-lithotomic position (which was also referred to by the experts as the Trendelenburg position), a position in which the operating table is inclined downwards so that the patient's legs and bent knees are raised up, higher than her head. The defendant then proceeded to make a sub-umbilical incision into her abdomen, into which a 10 mm wide trocar (a sharp-pointed cannula or tube) was inserted, into which the laparoscope was placed. The plaintiff's abdomen was then inflated with gas, to improve visibility. (As I understand the evidence he gave on this, when performing the laparoscopy the defendant took up a position where his view was at a downward angle of approximately 30°, towards the plaintiff's feet).

37. From his position he was able to see a large cystic structure around the right ovary, which was tightly adhered to the right pelvic wall. There was a loop of small bowel which was stuck to the anterior abdominal wall, because of the previous Pfannenstiel incisions. The defendant was unable to insert a second trocar supra-pubically, because of the adhesions present in the abdominal cavity, which were in the way, so he first inserted a 5 mm trocar into the plaintiff's right flank, to serve as a port for the working instruments. He then proceeded to use a LigaSure Maryland and scissors to dislodge the loop of small bowel which was adhered to the plaintiff's anterior abdominal wall. With a combination of dissection (cutting) and cauterizing he was able to dissect the adhesion and to mobilise i.e. free the loop of bowel, from the anterior abdominal wall. In doing so he was satisfied that he had not injured the bowel. He was then able to insert a 10 mm trocar supra-pubically, into which he could insert a grasper (an instrument used to grasp and pull), and was able to inspect the left ovary. There was a cystic structure attached to the fallopian tube and the left ovary was adhered to the pelvic wall, but it had a normal appearance.

38. He then returned to the right ovary. Using the LigaSure he was able to open the 'broad' (sic) ligament and to cauterise and dissect another pelvic ligament. He opened the peritoneum (a thin lining or membrane in the abdomen which covers many internal organs) to check that the ureter (the tube through which urine is conveyed from the kidney to the bladder) was mobile i.e. not adhered, before proceeding to free the right ovary. As he was doing so the cyst round it ruptured. He was able to remove the right ovary. The raw area where it was removed was rinsed out. There was no bleeding from the site where the ovary was removed.

39. He then moved across to the left ovary. There was another loop of small bowel which was adhered to the anterior abdominal wall, just under the umbilicus, which he left, as it was not in his way. The descending colon/caecum was adhered to the left ovary and the cystic structure around it. With a combination of sharp dissection and the LigaSure he was able to free the colon. In doing so he was likewise satisfied that it was not injured. There was no bleeding in the area where the colon had been mobilised. He then proceeded to free and remove the cystic structure around the left ovary. After considering its position and normal appearance he decided that the ovary should be left in place.

40. After checking the raw areas again for bleeding (there was none) he powdered them to achieve haemostasis i.e. to arrest any possible bleeding. The plaintiff's bowel was then deflated, and the trocars were removed from her abdomen. Her bladder was emptied of urine, which was 'clear' (i.e. there were no traces of blood in it). The ports in the plaintiff's flanks were then sutured, and after she regained consciousness, she was returned to the ward and discharged the following day.

41. In his supplementary report of the operation (in his file note of 5 May 2016) the defendant said that there were adhesions of the small bowel and the anterior abdominal wall as well as on the vaginal vault, at the bladder ('by die blaas'). He was able to remove the loop of small bowel from the vaginal vault by a combination of dissection ('knip') and the LigaSure. In doing so he was concerned about a possible injury to the bowel as well as to the bladder, as they were tightly adhered to one another ('heg aan mekaar verkleef'). After he removed the loop of small bowel he was satisfied that it had not been injured and that the bladder was still 'intact', and then proceeded to remove the (right) ovary.

42. He saw the plaintiff the morning after the operation. As she was doing well and had passed urine she was discharged. He phoned her 2 days later while she was at home, and she informed him that that she was doing well and was mobile, and her bladder and bowel were functioning well. On 3 May 2016 he was contacted by Dr Isabel Van der Merwe from the Emergency Unit who informed him that the plaintiff had been re-admitted with symptoms of abdominal pain, which were ascribed to a spastic colon and constipation. Blood tests were normal, and her urine was clear. When the defendant later enquired,

he was informed by the Emergency Unit that the plaintiff had been discharged. The following morning however he was contacted by Dr Nel who informed him that after seeing her the previous day he had directed that the plaintiff should be kept overnight and an ultrasound scan be done, which revealed the presence of a large volume of clear fluid in her abdomen. The defendant discussed the ultrasound report with the radiologist. Although the scan showed the presence of a large volume of fluid in the abdominal cavity, the kidneys appeared to be normal and there was urine in the bladder. The defendant was consequently concerned that there was possibly an injury to the ureter. After discussing the matter with Dr Nel they decided that a diagnostic laparoscopy should be performed that afternoon.

43. After the plaintiff was taken to theatre and sedated, a catheter was inserted into her bladder and urine drained from it. On insertion of the laparoscope it was evident that there was a large quantity of fluid in her abdominal cavity and there was a 'defect' ('defek') in the dome of the bladder, which was not 'completely perforated' ('heeltemaal geperforeer'), from which it was apparent, after mobilization, that urine had leaked into the abdominal cavity. According to the defendant the perforation was at 'exactly the same place' where he had freed the loop of small bowel. He concluded that it was likely that a superficial injury had occurred during the procedure, which had deteriorated with the filling of the bladder and had eventually ruptured.

44. Dr Nel then proceeded to suture the bladder perforation. A suction drain was placed in the abdominal cavity and a catheter was inserted into the bladder, which was to remain in *situ* for 10 days post-op. Upon completion of the procedure the defendant found the plaintiff's husband outside the theatre and took him to his consulting room where he explained what had happened. The following day the defendant also discussed the matter with the plaintiff.

45. What happened was an 'unfortunate' complication, which occurred because the defendant was 'scared' he would damage the bowel and thus most likely did the opposite, by causing a superficial injury to the bladder which, with filling, eventually ruptured.

46. I now turn to the evidence of the experts and the defendant.

(iii) <u>Professor Cronje</u>

47. It was evident, from Prof Cronje's impressive *curriculum vitae,* that he was a highly accomplished academic, specialist gynaecologist and obstetrician. He was the single, principal or co-author of some 48 articles in the field of obstetrics and gynaecology, published between 1977 and 2011, and co-author of several textbooks. He was the first author of some 116 scientific presentations which were delivered between 1971 and 2016. He performed the first vaginal hysteroscopy in SA in 1977 and thousands of gynaecological surgical procedures. It was put to him that the diagnostic laparoscopic procedures which he performed in the 1970s-1980s were very different from those which are performed today, which are primarily used for surgical purposes. Although he conceded this and indicated that he had not done much laparoscopic work since 2012, he said that he still regarded himself as experienced and knowledgeable in the field. He pointed out that although he had retired as an academic in 2011, he had continued to work thereafter in the gynaecological field, doing extensive prolapse surgery which was frequently performed in conjunction with laparoscopic procedures. Over his lifetime he had participated in and witnessed many laparoscopies. He had personally used LigaSure devices on numerous occasions during laparoscopies and open surgical procedures and was very familiar with them.

48. In commenting on the defendant's conduct Prof Cronje pointed out that when the defendant performed the first adhesiolysis (which was necessary for him to remove the plaintiff's right ovary), he had only been able to use a LigaSure and scissors to free the loop of small bowel, and could not use a grasper, as there were only two ports in place, a 10 mm one just below the plaintiff's umbilicus, through which the laparoscope was inserted and a second, 5 mm one in her right flank, through which the LigaSure was inserted. Because of the congestion in the abdominal cavity due to the adhesions around the right ovary the defendant was unable to insert a second, 10 mm trocar supra-pubically, through which a grasper could be used, before he separated the adhered loop of bowel. Prof Cronje said that if the loop could have been pulled away with a grasper it would have been much easier for the LigaSure to have been applied in such a manner that it was not 'tightly' up against the peritoneum, the thin (less than 1 mm) membrane which lines the inner wall of the abdominal and pelvic cavities.

49. It was his view that, when trying to stay away from the bowel while carrying out this adhesiolysis, and in attempting to avoid damaging it, the defendant must have applied the LigaSure against the peritoneum. If the adhesion was short 'one could imagine' that, when dissecting it, it 'might almost have been necessary' for the defendant to push the LigaSure against the peritoneum. If he had then closed its jaws, a small part of the bladder which was behind it, could have been pulled into them, and it would thereby have been subjected to thermal damage when the cautery function was activated, which would have extended 'far enough' that it resulted in a perforation at a later stage. This was because the tissue damage would have cut off or diminished the blood supply to the area and it would gradually have died i.e. it would have suffered avascular necrosis. In this regard Prof Cronje referred to a medical study which found that thermal damage can be sustained even beyond the 2 mm lateral thermal spread on either side of a LigaSure Maryland's jaws, up to a distance as far as 9 mm away from it. In his view this is what transpired in this matter. He said that if one were to have regard for photograph B23 it was evident that the LigaSure must have been applied tightly against the peritoneum during the performance of the adhesiolysis depicted on the photograph, as there was a greyish-coloured, blanched area visible, which indicated that there was thermal damage to the tissue.

50. As the defendant had made no mention of the bladder in his first (principal) operation report of 19 April 2016 and only spoke of the bowel, he had not considered the possibility of the bladder being on the other side of the abdominal wall, behind the peritoneum. Had the defendant thought about the possibility of the bladder being in that position, when performing the adhesiolysis depicted on photo B23, he would have taken measures to prevent damage to it. According to the defendant's second, supplementary operation note of 5 May 2016, the perforation which later manifested itself was exactly behind the area of thermal damage which was visible on photo B23.

51. Several difficulties arise from this evidence. If one considers what the defendant said in his supplementary operation note, it is evident (from the second paragraph thereof) that it dealt with a single adhesiolysis only i.e. the first one which he performed to free the right ovary, just before he removed it. And this is inconsistent with Prof Cronje's evidence, which became common cause, that

the ovary which is visible on the adhesiolysis which is depicted on photograph B23, is the *left* one, not the right one. It also was common cause that the bundle of photographs (exhibits B1-B31) show that 2 adhesiolyses must have been performed: the first one at photograph B14 and the second at B23. It was further common cause that the adhesiolysis which the defendant performed at photograph B23 followed the earlier one which he performed at photograph B14. Thus, the adhesiolysis which the defendant referred to in his supplementary operation note must have been the earlier one, at B14, not the one at B23.

52. Prof Cronje confirmed that the sketches which he had prepared (exhibits D1-D2 and E2) were aimed at depicting the adhesiolysis which the defendant performed at photo B23, because, in his opinion, it was the one which resulted in the damage to the plaintiff's bladder. In his view, given the number of photographs that were taken in respect of this adhesiolysis, the defendant 'obviously' wanted to show the 'safety' of the separation he performed during it, and this was the 'important' adhesiolysis he dealt with, and not the one that took place at photograph B14. According to Prof Cronje, 'everything' in the defendant's operation report of 19 April 2016 'fitted in' with what was shown on photograph B23, and he accordingly disputed the defendant's contention that, as it was put to him, the damage must have been caused while the adhesiolysis which is depicted at photograph B14 was being performed, and not during the adhesiolysis at B23, and that it was 'anatomically impossible' for the damage to the dome of the bladder to have occurred during the adhesiolysis at B23. In answering questions on this aspect during cross-examination Prof Cronje became agitated and said that we were 'wasting time' as the 'essence' of the case pertained to the adhesiolysis which was shown at photograph B23.

53. In substantiating this he claimed that there were certain aspects of the defendant's case that were not 'logical'. Thus, whereas the principal operation report spoke of a second adhesion, between the large bowel/colon and the left ovary, which the defendant had ligated, on photograph B23 it seemed as if the ovary was still attached to what appeared to be the small bowel, not the large one, and the pelvic sidewall. Of course, the photograph depicts but one moment in time in the process pertaining to this adhesiolysis. However, contrary to this evidence, when considering photograph B25 a short while later (which was part

of the sequence of photographs depicting the adhesiolysis which is shown at photograph B23), Prof Cronje said that the yellowish structure which was visible on the right-hand side of the photograph looked like the large, and not the small, bowel.

54. During his cross-examination it was pointed out that in his evidence in chief he had seemed to suggest that the damage to the plaintiff's bladder had been occasioned at the outset of the procedure, when the defendant had first obtained access to the peritoneal cavity, and had to free a loop of small bowel using the LigaSure and scissors only, as he did not have a suprapubic port in place through which he could insert a grasper, in order that he could get to the right ovary; whereas he now seemed to contend that the damage occurred when the adhesiolysis in respect of the left ovary was performed. In response he conceded that whereas the previous day he had thought that the place where the bladder was injured was on the right-hand side, he now thought that it was 'more to the left side', in the vicinity of the left ovary. However, notwithstanding his repeated assertion that the damage must have been sustained during the adhesiolysis depicted on B23, he then conceded it was possible that the damage could have occurred during the adhesiolysis shown on photograph B14. He said that, either way, he was of the view that the LigaSure was applied too closely or tightly to the peritoneum, and this had resulted in the bladder damage.

55. He was asked why he was of the view that the bladder was behind the grey/blanched area which is visible on photograph B23. In response he said this was because photograph B23 was the only photo which showed the presence of thermal damage i.e. a 'burning effect' on the pelvic wall, and that was why he concluded that the bladder must have been behind it, as it sustained a perforation. It was put to him that, according to the defendant, it was not the bladder but the vaginal vault which lay behind the visible cautery marks. He responded that the contention did not make sense to him as it was common cause that damage was sustained to the dome of the bladder, which was 'some distance away' (sic) from the vagina, and there was no evidence of any thermal damage having been done to the vagina.

56. It was further put to Prof Cronje that, in performing the ligation during the adhesiolysis at B14, the defendant had not placed the LigaSure up against the

peritoneum and the bladder wall behind it, nor had he pulled part of the bladder into its jaws. To avoid damaging the bowel he had placed the LigaSure closer to the bladder side than towards the bowel side of the adhesion, when he dissected it.

57. As for whether the defendant should have converted the laparoscopy to a laparotomy Prof Cronje conceded that, although in his view the plaintiff presented with a 'difficult' pelvis as there were a number of adhesions in it which involved several structures/organs including the bowel, bladder and ovaries, this was a decision which the defendant was required to make at the time, which depended not only on the number and extent of the adhesions present in the abdominal cavity, but also the visibility which the defendant had intraperitoneally, and his ability and experience. Consequently Prof Cronje conceded that it could not be said that the defendant was obliged to convert the procedure to a laparotomy, and it depended on the circumstances which he faced at the time.

58. As far as the use of alternative cautery and dissecting devices was concerned Prof Cronje agreed with the view expressed by Dr Fölscher that a LigaSure Maryland is often the preferred option, as its use results in less blood loss and a more controlled application of thermal energy and (save for bipolar scissors which Prof Cronje thought had a lateral thermal spread of only 1mm) its lateral spread is the lowest of the various alternative powered cautery devices available.

59. In his view the adhesion visible on photograph B14 could have been dissected with ordinary scissors instead of a LigaSure, as there would have been little bleeding, and it could have been cauterised with bipolar scissors.

60. Finally, insofar as his opinion was based on the perforation being a large one of 3cm, it was put to him that the defendant, who was present when Dr Nel performed the bladder repair, would testify that this was the size of the 'defect' or perforation after Dr Nel had pushed against it with cap of the suction and it had opened up, and was then debrided and cleaned for suturing. When it was first observed via the laparoscope it presented as a tiny, discoloured scab-like spot through which urine was seeping into the abdomen. In response Prof Cronje said that surgeons usually noted the size of a defect before they repaired

it, but he conceded that he could not say that this is what Dr Nel did in his note of the operation.

(iv) Dr Pienaar

61. Dr Pienaar was formerly a senior lecturer and principal specialist at, and Head of, the Colorectal, HPB and Laparoscopic surgical unit of the University of Pretoria, from 2010 to 2017, when he retired. He has extensive experience in laparoscopic procedures, initially and primarily pertaining to the liver, gall bladder, hernia and related surgery. He has worked with a LigaSure device on numerous occasions. He confirmed the contents of his reports. In his first report he thought that the defendant had used a LigaSure Atlas. After further photos were produced by the defendant, he corrected this in his second report to reflect that use had been made of a LigaSure Maryland.

62. In his view a surgeon using a LigaSure Maryland should not activate the coagulant/cauterising function thereof when operating in the abdominal cavity and dissecting adhesions unless he/she knows what structures or organs may be impacted by it. The adhesion at photograph B14 was flimsy and very thin and there was no blood vessel in it of significance. The defendant could accordingly have cut it with a scissors or torn it off with a grasper. Two types of scissors would be available: standard laparoscopic scissors or monopolar cautery scissors. If a grasper had been used to dissect the adhesion any bleeding which followed would have been insignificant. If it was an issue a monopolar cautery instrument could have been used to seal the area. It was not necessary for the defendant to use a LigaSure on that adhesion, or if he did so, to use its cautery function. The LigaSure could simply have been used to crush or cut the adhesion, without activating its cautery function, in which case there would not have been a thermal injury.

63. According to him the defendant had put up conflicting versions. In his first report of 19 April 2016 he made no mention of the bladder, only stating that he was satisfied that there was no injury to the bowel, and he simply said that the adhesion was attached to the abdominal wall. In contrast to this in his second report of 5 May 2016 he referred to an adhesion to the anterior abdominal wall and the vaginal vault, at the bladder. He also said he was concerned about both a possible bowel and a bladder injury, as they were ‘closely’ adhered to one another. However, from a consideration of the adhesion on photograph B14 it

was evident that they were not closely adhered to one another. He was unable to say how long the adhesion at photograph B14 was without an instrument in the photograph which could serve as a reference.

64. It could not be said that a complication had occurred when an instrument such as a LigaSure was used 'off-spec'. In his view, the only possible way the injury would have been caused was if the LigaSure was applied to, or against, the plaintiff's bladder. He did not think that thermal energy could travel into the plaintiff's bladder wall without visible thermal damage being present to the outer overlying layer of tissue i.e. the peritoneum, which covered it. Thus, if thermal injury had been caused during the dissection at B14 one would have expected to see some visible thermal damage, such as that which is visible on the dissection on photograph B23. Given that the perforation which Dr Nel repaired was 3cm long one would expect there to have been visible damage to the anterior abdominal wall. As the view one obtains from the laparoscope can be turned around, and it was not evident what the orientation of photograph B23 was, the ovary that is visible in the photograph could be the right one. In the circumstances the bladder dome could have been behind the area of visible thermal damage which can be seen in the photograph, and he could not agree that it was anatomically impossible for the injury to have been sustained when the adhesiolysis at B23 was performed. According to him it was not possible to say what organ was where, on the photograph.

65. During cross-examination he conceded that the 'cookie cut' which is visible on the right-hand side of the image in photograph B23 showed its orientation and it was accordingly not upside down, and thus the ovary which is visible in it was the left one. Consequently, he agreed that the adhesiolysis on photograph B23 was deep down in the abdominal cavity in the area of the vaginal vault and the bottom of the bladder, and not where the dome or top of the bladder was. However, when it was again put to him that it was therefore anatomically impossible for the injury to have been sustained during the adhesiolysis on B23 he did not answer the question and deflected it, asking whether the injury was 'really' at the top of the bladder or was not 'somewhere in the middle' of the bladder wall 'towards' the top.

66. Contrary to his report, he said that it was not unreasonable for the defendant to have used a LigaSure Maryland as it was one of the options that were available

to him, and he also had no difficulty with the defendant's decision to proceed laparoscopically and not to convert the procedure to a laparotomy. He only took issue with how the LIgaSure was used. He said he would have dissected the adhesion at B14 by placing the LigaSure in the middle of it, rather than at a point closer to the bladder side of it.

67. In response to the contention that the injury was caused when the thermal energy which was transferred into the bladder wall resulted in its devascularization and avascular necrosis setting in, he said he was of the view that it was extremely unlikely that necrosis would have occurred if the LigaSure, which only had a 2mm lateral thermal spread, was applied only to the adhesion, and consequently he and Prof Cronje were of the view that the bladder wall must have been involved.

68. He disputed that if the LigaSure was placed against the bladder wall the perforation and leakage would have manifested almost immediately, as the plaintiff was catheterized. He conceded however that once the catheter was removed and she was discharged, the pressure in her bladder would have built up. When asked if he therefore contended that there must have been an immediate perforation during the procedure he said he did not know. In his view the initial damage may have only been to the outer lining of the bladder wall.

69. That then as far as the evidence which was tendered by the plaintiff.

(v) <u>The defendant</u>

70. The defendant obtained his MBChB degree from the University of Stellenbosch in 1985. In 1993 he obtained his master's in medicine and was admitted to the SA College of Obstetricians & Gynaecologists. In 1995 he went to work as a private gynaecologist in Fort St Johns in British Columbia, Canada, for 2 years.

71. He first performed laparoscopic surgery for diagnostic purposes, whilst he was a registrar in SA. The hospital he worked at in British Columbia had just acquired a set of laparoscopic facilities, including a camera with monitors. By today's standards these facilities were basic. He was not well versed in the use of laparoscopic procedures at the time but received training. On his return to South Africa in 1997 he started practising in George where he has been working for the last 27 years. He continued doing laparoscopic surgery in George and was performing an average of 2 to 4 laparoscopic procedures per week.

Approximately 25-30% of the total surgery he performed was done laparoscopically.

72. Initially, cautery devices were monopolar. This was followed by the development of bipolar devices and approximately 12-15 years ago, the LigaSure Atlas. The LigaSure Maryland became available approximately 5 years ago. He was one of the first surgeons in George to use it. He used it regularly for his laparoscopic procedures.

73. He confirmed the contents of his various file notes. He saw the plaintiff on 13 April 2016 after she had been referred to him by Dr Nel. She presented with chronic, long-standing epigastric pain. A scan revealed the presence of an ovoid-shaped cyst on the left ovary and a large, complex cystic structure on the right ovary as well as a smaller one. Given the plaintiff's age and previous history it was necessary for the cysts to be removed and investigated to exclude ovarian cancer, which is a rapid-growing cancer. The plaintiff agreed that the procedure should be done as soon as possible, and she was admitted on 19 April 2016.

74. After she had been sedated and placed in a lithotomic position the defendant emptied her bladder and made an incision in her abdomen just below the umbilicus, into which a trocar was inserted for the laparoscope, which has a camera which affords a live view which is displayed on a monitor. The laparoscope allows for photographs and videos to be taken during the procedure. The defendant was assisted by Dr E Muller, a general practitioner who he had worked with for about 15 years. She was responsible for taking photographs during the procedure. He asked her to take photos of moments that he thought were worthwhile recording, but as an experienced assistant she also used her own discretion as to when to photograph anything she thought was important.

75. Upon inspecting the inside of the plaintiff's abdominal/peritoneal cavity the defendant noted that there were adhesions present, but he was satisfied that he was able to proceed laparoscopically, as he did not consider her to have a 'frozen' or 'difficult' pelvis, such that the procedure should be converted to a laparotomy. Laparotomies have certain disadvantages when compared to laparoscopic (so-called 'keyhole') surgical procedures. They can be accompanied by post-operative bleeding with a resultant drop in blood pressure

and hypovolemic shock, as well as bowel injuries, which are particularly dangerous, as faeces can contaminate the peritoneal cavity and cause severe pain and infection, and a surgical repair may require the patient to wear a colostomy bag for several months before the wound site is closed. A laparotomy can also result in possible injury to the ureter or bladder.

76. During the laparoscopic procedures which the defendant performed he would usually have 3 to 4 trocars in place in the patient's abdomen: two larger (10 mm) ones and two smaller (5 mm) ones.

77. After he was satisfied that he could continue with the procedure laparoscopically he asked his assistant to make available a bipolar scissors, suction and tubing, and a LigaSure Maryland. The Maryland automatically determines the amount of thermal energy which is to be administered and the duration thereof, by evaluating the thickness of the tissues and the blood vessels that must be dissected and cauterised, and it has the least thermal spread. Thus, there is no danger of an over-application of thermal energy, as might occur if one were to use other bipolar cautery devices such as bipolar scissors, or monopolar devices, which require the operator to apply the energy manually, in short bursts.

78. He noted there was an adhesion between a loop of small bowel and the anterior abdominal wall, and it was evident that the right ovary needed to be removed. To make space in the abdominal cavity for the insertion of a 10 mm trocar suprapubically, through which this could be done, it was necessary to first remove the adhesion, as it was in the way. Having regard for the thickness and length of the adhesion and the blood vessel in it he elected to use the LigaSure Maryland to dissect it. He accordingly made an incision in the plaintiff's right flank into which a 5 mm trocar was placed for the insertion of the LigaSure. Whilst there were other options available to him, in his assessment it was the appropriate instrument to use at the time.

79. The adhesion which he dissected was the one shown on photograph B14. It was attached to the peritoneum anteriorly. It was difficult for him, from looking at the photograph, to discern exactly what structure it was attached to, as it was behind the peritoneum, and thus not visible. However, given the previous surgical incisions which had been made to the plaintiff's abdomen, as a surgeon he was aware of what the possible structures were which could lie behind the

peritoneum, particularly the bowel and bladder. In this regard he said one would obviously always consider that the bladder might possibly lie behind the peritoneal wall. During his evidence he identified where, on photograph B14, these organs would have been, behind the peritoneum. Regarding the sketch exhibit D1 he pointed out that the Pfannenstiel scar which was depicted on it was probably more extensive and extended further downwards, towards where the bladder was depicted.

80. He inserted the LigaSure Maryland through the working port and used it to dissect the adhesion to free the loop of bowel. As he had only one workable port through which the LigaSure was inserted he was unable to simultaneously use another instrument to assist in freeing the loop of bowel. It was not necessary to use a grasper as gravity would ensure that once the loop of small bowel was dislodged it would fall downwards, towards the plaintiff's head. Using a grasper could cause damage to a hollow organ if it was applied to it. As the bowel is relatively soft, if a grasper is placed on or against it, or if an adhesion that is stuck to it is pulled from it using a grasper, it can be damaged.

81. When asked where he applied the LigaSure on the adhesion which is visible on photograph B14, he responded that as the procedure took place 7 ½ years ago and he had operated on thousands of patients since then, there was no way that he could honestly make a mark on the photograph indicating precisely where the adhesion was dissected. To spare the bowel from any possible injury he routinely applied a 'one-third/two-thirds' rule in such situations i.e. he would place the LigaSure at a point on the adhesion which was approximately two-thirds of the distance away from the bowel side and approximately one-third of the distance away from the bladder side thereof. This is what he would have done in this case.

82. After he had dissected the adhesion, he saw the loop of bowel fall away, towards the plaintiff's head. There was no bleeding and from what he could see no damage had been caused to the peritoneum, in the area where the bladder lay behind it. After then inserting a third trocar, supra-pubically, into which he inserted a grasper, he proceeded to remove the cystic structures around the right ovary and the ovary, part of which process can be seen on photographs B15-B20. During this process he used the LigaSure again.

83. He then turned to the left ovary, which, as he pointed out on photograph B22, was also adhered to the bowel and a cystic structure. The separation of the left ovary from the adherent structures was much easier that that of the right ovary. The process can be seen on photographs B22-B26. Once again, he used the LigaSure to do the separation and dissection, this time with the assistance of the grasper. As can be seen on photograph B23, in the process thermal damage was sustained by the surrounding tissues.

84. After the left ovary was freed and its cystic structures removed, he decided that it was not necessary to remove it, and he accordingly left it in situ. After washing out the areas where the dissections had taken place, he was satisfied that there was no bleeding and he lined the abdominal cavity with coagulant powder, as can be seen on photographs B27-B28. He then switched off the machine that was responsible for inflating the peritoneum and, once the gas in the abdominal cavity had escaped, the trocars were removed and the entrance wounds sutured and the bladder emptied, and the plaintiff was returned to a horizontal position. After she had recovered from the anaesthetic, he emptied her bladder again and checked that there was no blood in her urine, and she was then taken back to the ward.

85. On returning to his rooms he prepared his file note on the operation. The following morning he visited the plaintiff during his ward round. After considering her clinical records he was satisfied that she could be discharged. A few days later he telephoned her to enquire how she was doing. She said that she was still sore but was getting better. She confirmed that her bladder was functioning and that she had normal bowel movements.

86. On 3 May 2016 he was phoned by Dr I Van der Merwe, the head of the Medi-Clinic emergency unit who informed him that the plaintiff had been admitted, complaining of severe abdominal pain. Her blood counts were normal, and her urine was clear. An x-ray which was taken showed there was faecal loading. He advised Dr van Der Merwe to admit the plaintiff as he was concerned about her. She informed him she would let him know whether she was admitted to Medi-Clinic or to the Geneva clinic, where the laparoscopy had been performed. As he did not hear from her again, he went to the emergency unit later in the day where he was informed that the plaintiff had been discharged. However, the following morning he received a call from Dr Nel who informed him that he had

admitted the plaintiff and an ultrasound which had been done revealed the presence of clear fluid in her abdomen. He understood this to mean that there was a leakage of urine into the abdominal cavity. He went to the radiology section to discuss the scan and report with the radiologist and then went to see the plaintiff. He was not well received by her.

87. Dr Nel indicated that he was going to perform a laparoscopy on her and he said he would attend. By the time he got to theatre the plaintiff was already sedated and in a lithotomic position. When the laparoscope was inserted into her abdominal cavity, they could see there was a large volume of urine in it and a small area of brownish discolouration on the dome of her bladder, through which urine was seeping into the cavity. The defect or perforation was a small hole and was not 3 cm long. When Dr Nel prodded it with the suction it gave way. He then debrided and cleaned the area around the perforation to ensure that the tissue around it was live and whole before suturing it closed.

88. The defendant then left the theatre. As he did so he came across the plaintiff's husband, who was waiting outside, and asked him to accompany him to his rooms where he explained to him that what had happened was a complication, for which he took responsibility.

89. He confirmed that in his 2nd file note of 5 May 2016 he had said that, in his assessment, the perforation or defect he saw in the bladder dome was 'in the same place' ('op dieselfde plek') where the loop of small bowel had been freed during the dissection of the first adhesion i.e. the one on photograph B14. There must therefore have been a superficial injury to the bladder which deteriorated and eventually ruptured. In the final paragraph of his file note he recorded that what had happened was a complication which occurred, when, in avoiding injuring the bowel he had inadvertently injured the bladder. He said, with reference to Prof Cronje's sketches (exhibits C and D), that the injury could not have been sustained during the second adhesiolysis (at photograph B23) as the injured spot on the bladder dome would have been about 6-8 cm away from that area, if not further. If an injury had occurred at the time of that dissection, it would have been lower down the bladder, near to the ureter, and not on the dome.

90. When asked to explain how, in his view, the perforation occurred, he said it was caused by the lateral spread of thermal energy which penetrated into the

bladder wall, which over the course of time resulted in avascular necrosis to an area on the dome, which gave way. The injury would not have been visible at the time when the adhesiolysis at B14 was done as it would have been occasioned by microscopic changes to tissues in the bladder wall.

91. He denied that he had failed to consider that the plaintiff's bladder might be behind the peritoneum when he performed the adhesiolysis at B14 or that he had left an insufficient margin between the spot where he applied the LigaSure and the peritoneum, behind which the bladder lay.

92. He conceded that there were discrepancies between his file notes of 19 April and 5 May 2016 in relation to his description of the adhesions. In the first report he described the adhesion of the loop of small bowel as adherent to the anterior abdominal wall. If one had regard for Prof Cronje's sketches the adhesion was more retro-pubic and extended towards the vaginal vault, as he said in his file note of 5 May. His assessment of where the adhesions were adhered to in the abdominal cavity was not performed using a measuring device and was not exact. As he explained in his earlier evidence his view inside the peritoneal/abdominal cavity was like being inside a balloon.

93. Before he prepared his second report of 5 May 2016, he had not read the first one again and recorded the events as he recalled them. He pointed out that in any event the bladder sat above the vaginal vault, and they were close to one another.

94. During cross-examination he agreed that in certain respects he may have conflated aspects of the two adhesiolyses in his second report which, in its description in paragraph 2 seemed to deal with only one adhesion i.e. the one that was dissected before the right ovary was removed. He persisted with his contention that if damage was sustained during the second adhesiolysis (at photograph B23) it would not have been to the dome of the bladder, but lower down and to the back of it. As for the size of the brownish-coloured defect or perforation in the dome he said that after the suction, which was about 5 mm wide, was pushed through it, it may have been about 1½ cm wide but was not 3 cm wide. It could have been about that size after it was debrided and cleaned i.e. after the necrotic area around it had been removed, before it was sutured.

95. When performing the adhesiolysis at B14 he did not foresee that a bladder dome injury might occur as he did not anticipate that the bladder would have

been pulled up that high, and he was accordingly not expecting it to be behind the peritoneum. It was pointed out that this appeared to be contrary to paragraph 2 of his file note of 5 May 2016 where he said that he had been worried about a possible injury to the bowel and to the bladder, as they were closely attached to one another.

96. He agreed that, although he had felt safe when placing the LigaSure on a spot one-third of the length of the adhesion away from the bladder side of it, in retrospect he had made a 'mistake'. He also conceded that he had other options available to him when dealing with the adhesion at B14, such as cutting it with scissors and tying off its ends to staunch any bleeding, and that if he had done so it would not have resulted in an injury to the bladder dome. Equally, he conceded that if he had converted the laparoscopy to a laparotomy before doing the first adhesiolysis the injury would not have occurred. He said that, nonetheless, he was comfortable using the LigaSure and applying it to the adhesions. Finally, when asked why, if he thought that the procedure had been untoward and had unfolded normally and there was no cause for concern i.e. no reason to suspect that he had caused an injury either to the bowel or the bladder he considered it necessary to say this in his file note. He responded that he always said this in his reports of the laparoscopies he performed.

(vi) Dr Fölscher

97. After setting out his medical qualifications Dr Fölscher noted that laparoscopic surgery was first performed in 1901 for diagnostic assessments. In 1987 the modern laparoscope was introduced. It was first used in SA for surgical purposes from about 1991 onwards. By 1997 laparoscopic procedures were being performed worldwide. He had extensive knowledge of such procedures and had presented courses in them in SA in 2006-2007. In 1999-2000 he had a fellowship with the Royal College of Surgeons in the UK and did work in Strasbourg. He knows the defendant for many years, and they are colleagues, as they both practise in George and have rooms at the Geneva clinic.

98. The LigaSure Atlas was introduced before the LigaSure Maryland. Its jaws are approximately 10 mm (i.e. 1 cm) wide, and end in a blunt tip. It is used as a haemostatic instrument to coagulate large blood vessels. In contrast to it the Maryland is a smaller, finer instrument with jaws which are about 5 mm in diameter, in a curved tip. It is used both for cauterisation i.e. coagulation of

blood vessels and for dissection. It is a bipolar device which is automatically controlled to generate the precise amount of thermal energy required to cauterise blood vessels. The device determines the duration of the pulse of thermal energy which is to be administered by measuring the thickness of the tissue which is gripped in its jaws, and then applies it. It has a visible, lateral thermal spread of approximately 2 mm on either side of its jaws. As a LigaSure Maryland goes through a 5 mm port its jaws are about 3½-4 mm wide. According to the literature it has a thermal spread of 2 mm on either side of its jaws. Thus its total thermal footprint is in the order of 7½-8 mm.

99. The peritoneum covers a large part of the bladder, including its dome or top, which is shaped almost like a 'beanie', and which extends over about 3-4 cm. Pfannenstiel incisions (which are made for so-called Caesarean sections) will usually be very near to the bladder dome. When they are sutured, and the wounds heal, the tissue underneath is pulled up. With each successive such incision the underlying tissue and organs that may have become adherent to it, such as the bladder and its dome, will be pulled up higher.

100. In his view, given these circumstances, it was anatomically impossible for the bladder dome to have been in close proximity to the vaginal vault, as it would have been pulled up, as depicted in Prof Cronje's sketch exhibit C2. Consequently, if thermal damage had been done to the bladder during the adhesiolysis at photograph B23 it would have been to that part of the bladder lower down, which lay next to the vaginal vault, and not to the dome, which was some distance away, and higher up. The thermal damage which is visible on the cauterized area on photograph B23 would have been in the area where the vaginal vault lay, as marked on the sketch exhibit D1. Whilst much was said about the greyish-coloured area of thermal damage on B23 it was not unusual to see this during laparoscopic procedures. He would have up to 30 such discoloured areas of damage when he did a low anterior resection of the rectum.

101. By his estimation, the adhesion on photograph B14 was approximately 2-3 cm long and it would accordingly have been safe for the defendant to have applied the LigaSure on it, at a point which was one third of the distance away from the bladder side of the adhesion, to avoid causing damage to the bowel, which lay on the other side of it, behind the peritoneum.

102. He agreed with the view expressed by the other experts that, given that the injury was to the bladder dome and manifested as a tiny, discoloured hole or perforation, it was likely to have been caused by avascular necrosis as a result of the penetration of thermal energy into the bladder wall, some distance away. If the bladder had been scarred during previous surgery (the plaintiff had two Caeserean sections and a hysterectomy), the blood supply to that section of it may have been diminished or compromised.

103. He did not agree with Prof Cronje's contention that, because there was a 3 cm perforation in the bladder dome the injury must have been caused when the LigaSure was grabbed by, or pulled into, its jaws. If this had happened the abdominal cavity would have filled up with urine within 3 days and because of the pressure the perforation would have manifested itself within that time (as the bladder would have held for a day or two only, as it is a cavity that is subject to high pressure), and not some 11 days after the laparoscopy. As the abdominal cavity was found to have only 1-1 ½ litres of urine in it when Dr Nel performed the laparoscopy, and the onset of acute pain occurred some 2-3 days before the plaintiff's admission, the perforation must have been a small one, which allowed for slow seepage into the abdominal cavity. He said that he was 'as sure as could be' that the perforation and resultant leak could not have been present for more than 2-3 days, as the leak was a 'minor' one. If the plaintiff had urine in her abdominal cavity for a lengthy period, or for a short period at a high leakage rate, her urea count would have shot up. From his assessment her urea count before the second laparoscopy was only slightly elevated, at a level that one normally would see in a person who was ill and had not been drinking and eating properly for a day or so.

104. He agreed with the defendant that the plaintiff did not present with a difficult or frozen pelvis. There were only two adhesions present which needed to be dissected. The one shown on photograph B14 was an 'easy' one to remove. Although far and away the best manner of dividing an adhesion was to use scissors this was not so when there was a danger of bleeding. In such a case the safest device to use was a LigaSure Maryland or the 'harmonic scalpel', which was quite expensive. Monopolar scissors cautery devices should not be used as the amount of thermal energy they deliver cannot be controlled. In his travels throughout the world he has never seen monopolar scissors being used

for this purpose during laparoscopic procedures and has never seen anyone cut and tie up an adhesion.

(vii) Dr De Jong

105. Dr De Jong is a specialist obstetrician and gynaecologist with a certificate in uro-gynaecology. He specialises in female gynaecological disorders affecting the bladder. Although bladder injuries have a complication occurrence rate of 1% during gynaecological surgery involving the removal of ovaries, they can occur no matter how meticulous the surgeon may be, and there is always a risk of a bladder injury being sustained during such procedures.

106. In the plaintiff's case both her ovaries were adhered to the pelvic wall. She had two previous Caesarean sections and a hysterectomy, which distorted the anatomy in her pelvic cavity and made adhesions inevitable. With each successive surgical event the bladder would have been pulled up higher, during the surgical and healing process, and the concomitant formation of adhesions.

107. The adhesion shown on photograph B23 was one involving the small bowel and the left ovary, not the bladder. The bladder was involved in the adhesion at photograph B14.

108. The thermal damage which is caused by a LigaSure extends beyond the 2 mm visible lateral spread on the sides of its jaws, to microscopic, invisible further damage to adjacent tissue, resulting in a loss of its integrity and diminishment of the blood supply downstream, to capillaries and blood vessels supplying the organ concerned with oxygenated blood. Thus, over time the integrity and strength of a bladder wall which is subjected to such damage may be compromised and at a later stage, typically 2 weeks, the tissue will give way and leakage will occur. This is the result of avascular necrosis which has occurred because of the reduction in the supply of oxygenated blood, which causes ischaemic damage to the tissue. Where an area is well-vascularized i.e. well-supplied with blood, avascular necrosis will probably not occur as any damage will be compensated for by other, collateral blood vessels in the area. In the case of fibrous, scar tissue or adhesions, vascularization will not be present or if it is, will not be good, and a diminishment or loss of blood supply cannot be compensated for by other vessels.

109. Avascular necrosis typically occurs in Caesarean sections or at hysterectomy. His own experience and that of colleagues is that some 2 weeks after such

surgical procedures patients may present with a fistula between the bladder and vaginal wall, due to avascular necrosis. This is often also seen in cases of surgery to remove cancer of the uterus and cervix, and in his experience avascular necrosis is the most common cause of bladder leakage.

110. Having regard to the evidence the most likely cause of the perforation in the dome of the plaintiff's bladder was avascular necrosis. As was evident from the evidence of the defendant, and the contents of Dr Nel's report, the perforation manifested as a discoloured area of tissue-like consistency. The discolouration suggests there was a lack of blood supply to the spot.

111. All the experts were agreed that the leakage of urine into the plaintiff's abdominal cavity must have started a day or 2 prior to the onset of acute symptoms. She presented to the emergency unit on 3 May 2016 with a 3-day history of worsening abdominal pain.

112. Had the bladder wall been pulled into the jaws of the LigaSure during the performance of the adhesiolysis in photograph B23, bladder damage and the resultant leakage would have been immediate, or the defect would have given way within a matter of days, if not hours, after the operative procedure. Had this been the cause of the injury it would have manifested as an open 8-9 mm cut/injury in the wall of the bladder, lower down, or in the bottom of it, and not in the dome, which sits at the top.

An assessment

(i) <u>The legal principles applicable</u>

113. The principles in terms of which the issues which require determination must be decided are trite and well-established, and a summary thereof will suffice. In the first place, in accordance with the general principle that she who asserts must prove, it is for the plaintiff to prove that the injury she sustained was caused by the defendant's negligence.[1] To succeed in this regard the plaintiff needed to prove that, in his performance of the laparoscopy and his use of the LigaSure the defendant failed, as a medical practitioner, to adhere to that level of skill and 'diligence' i.e. care which was possessed and exercised at the time

[1] *Goliath v MEC for Health, Eastern Cape* [2014] ZASCA; 2015 (2) SA 97 (SCA) paras 8 and 12.

by members of that branch of the profession to which he belonged i.e. specialist gynaecologists.[2]

114. The defendant is not required to have exercised the highest possible degree of professional skill and care, but merely to have employed reasonable skill and care.[3] In determining whether he did so the benchmark essentially is whether his conduct fell below the standard of a 'reasonably competent' practitioner in his field.[4]

115. Determining whether the plaintiff has discharged the onus which rests upon her requires the court to decide whether, on a careful evaluation of all the evidence which is before it, she has succeeded in proving the negligence averred against the defendant, on a balance of probabilities.[5]

116. The SCA has cautioned that a medical practitioner should not be held to have been negligent simply because 'something went wrong',[6] for to do so would be to 'impermissibly reason backwards from cause to effect'.[7] As is so often evident 'even with the best will in the world things sometimes go amiss' in surgical operations or medical treatment.[8]

117. As was noted in *Goliath,* [9] a case such as this involves questions of factual complexity and difficulty which require an evaluation of technical, and at times conflicting, expert evidence. In this regard it is worthwhile reminding oneself of what the proper approach to dealing with such evidence should be.

118. Expert witnesses in medical negligence cases provide the court with evidence of the current state of knowledge and generally accepted practices in their particular discipline, and of the inferences which they have drawn and the resultant opinions they have arrived at, and the grounds upon which they have done so, in order to assist the court to understand the factual and medical issues and to arrive at a proper determination of them.[10]

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[2] *Van Wyk v Lewis* 1924 AD 438 at 444; *Goliath* id.
[3] *Mitchell v Dixon* 1914 A.D. 419 at 525; *Goliath* id.
[4] *Castel v De Greeff* 1993 (3) SA 501 (C) at 512A-B, *Buthelezi v Ndaba* 2013 (5) SA 437 (SCA) para 15.
[5] *Goliath* n 1 para 11.
[6] Id para 9.
[7] Id para 13.
[8] Hucks v Cole [1968] 118 New LJ 469, cited in *Buthelez*i n 4 para 15.
[9] Note 1.
[10] *AM & Ano v MEC for Health, Western Cape* [2020] ZASCA 89; 2021 (3) SA 337 (SCA) para 17.

119. As regards the opinions they express, for them to be worth anything they should represent reasoned conclusions which have been arrived at on the basis of facts or data which are either common cause, or which are otherwise established in evidence.[11] Thus, an expert's bald statement of opinion unaccompanied by a proper factual foundation is not of any 'real assistance' and a proper evaluation thereof can only be undertaken if the process of reasoning which led to it, including the basis or premises from which it proceeded, is disclosed.[12]

120. Consequently, before any weight can be given to an expert opinion the facts upon which it is based must be found to exist,[13] and the more an expert relies on facts not established in evidence the more the weight given to their evidence will diminish.[14] An opinion which is not based on facts in evidence has no value for the court.[15]

121. Equally, as far as inferences are concerned they must be 'reasonably capable' of being drawn from the admitted facts or those established in evidence, and if they are tenuous or far-fetched they cannot form the basis on which the court can make a finding.[16] Unless there are objective, admitted or proven facts from which an inference can be drawn, the method of arriving at it will fail, and one will be left with mere speculation or conjecture.[17]

122. Whilst it is so that the determination of whether negligence was shown to have been present is a matter for determination by the court and not the expert witnesses, it is bound to be informed by their opinions. Thus, where there are conflicting or opposing views in the experts' respective opinions the court's determination depends on an analysis of the cogency of the underlying reasoning which led thereto.[18] To this end, the court must determine whether the opinions have a 'logical' basis, in other words whether the experts considered the comparative risks and benefits of the relevant actions or conduct

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[11] *Coopers (SA) (Pty) Ltd v Deutsche Gesellschaft MBH* 1976 (3) SA 352 (A) at 371A-H.
[12] Id.
[13] *PriceWaterhouseCoopers Inc v National Potato Co-Op Ltd & Ano* [2015] ZASCA 2; [2015] 2 All SA 403 (SCA) para 99; *AM* n 10 para 20; *HAL obo MML v MEC for Health, Free State* [2021] ZASCA 149; 2022 (3) SA 571 (SCA)
[14] *AM* id.
[15] *HAL* n 13 para 208.
[16] *AM* n 10 para 21.
[17] id.
[18] *Buthelezi* n 4 para 14.

concerned, including those in issue, and have arrived at 'defensible' conclusions.[19]

123. Given that expert witnesses in medical negligence matters are commonly recognized, independent professionals who hold a certain status and measure of respect in their community, and their testimony is usually based on peer-reviewed medical knowledge and scientifically established facts, the issue of reasonableness (which pertains to the defendant's discharge of their legal duty towards the patient) and that of negligence (which pertains to whether they discharged their duties with that level of skill and care as could reasonably be expected of them), will not usually depend on an assessment of the credibility of such witnesses, as opposed to the reliability of the evidence which they have tendered.[20]

124. Where the experts are in agreement with one another on issues of fact, which agreement is embodied in a joint minute, the litigants are bound thereto, unless they have given notice that they have resiled from it or repudiated it. In the absence of such repudiation or withdrawal the court is equally bound to accept the agreed facts.[21] Where the experts' agreement pertains to issues of opinion the matter stands on a different footing: The agreement is considered to be merely a part of the total body of evidence and the court must still decide whether it will accept it. Thus, the existence of such an agreement will not preclude the admission of evidence which qualifies or contradicts the agreed opinion(s), unless the case has been conducted on the basis thereof, and the admission of qualifying or contradictory evidence will prejudice a party in a manner which cannot be cured.[22]

125. Where experts express diametrically opposed opinions which they are able to support by logical reasoning it is not open to a court to simply express a preference for one rather than the other, and on that basis to hold the medical practitioner to have been negligent.[23] Provided he/she has acted in accordance

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[19] *Michael & Ano v Linksfield Park Clinic & Ano* 2001 (3) SA 1188 (SCA) paras 36-37; *HAL* n 13 para 53.
[20] Id, para 34.
[21] *Bee v Road Accident Fund* [2018] ZASCA 52; 2018 (4) SA 366 (SCA). *HAL* n 13 para 229.
[22] Id. Thus, where parties place an agreed minute before the court which reflects both shared opinions and areas of disagreement, and do not call witnesses to deal with the areas of disagreement, the minute will do no more than to reflect that there is disagreement on the point.
[23] *Linksfield Park Clinic* n 19 para 39.

with a reasonable and respected body of medical opinion their conduct cannot be 'condemned' as negligent, simply because another equally reasonable and respectable body of medical opinion would have acted differently.[24]

(ii) The findings

126. It is time to arrive at the findings that are to be made, in the light of the evidence which was tendered and the opinions that were expressed.

127. Pursuant to, and as a result of, the laparoscopic procedure which the defendant performed on the plaintiff on 19 April 2016 she sustained an injury to the dome of her bladder. At the time of its repair some 2 weeks later, on 4 May 2016, the injury presented as a small, discoloured area of perforation, from which urine was seeping from the bladder into the abdominal cavity. When the perforation was prodded with a suction it gave way and opened up. After it was debrided and made ready for suturing it was about 3 cm in length.

128. Save for Dr Pienaar (who, in his evidence, went against his concurrence on this aspect in the joint minute of 19 March 2020), the experts were agreed that the perforation must have manifested itself a day or two prior to the onset of the acute symptoms with which the plaintiff was admitted on 3 May 2016 i.e. some 11 days after the laparoscopy.

129. The size (small/'tiny'), appearance (a brownish discolouration), place where it was located (the bladder dome) and the date when it manifested, substantiate the opinion of the experts that the injury was occasioned by avascular necrosis, due to inadequate blood flow and circulation in the bladder structure.

130. The devascularisation was caused by thermal energy i.e. heat that was transferred into the bladder wall when a LigaSure Maryland, a surgical instrument used to dissect and cauterise, was used by the defendant on an adhesion in the plaintiff's abdominal cavity, which was present due to previous surgeries she had undergone.

131. It is common cause that the defendant performed two adhesiolyses: the first one (shown on photograph B14) upon entering the abdominal cavity, in order that he could remove the right ovary and the cysts around it, and the second one (shown at photograph B23) in order that he could get to the left ovary and remove the cysts that were around it. The plaintiff's experts contended that the

[24] *Medi-Clinic Ltd v Vermeulen* [2014] ZASCA 15; 2015 (1) SA 241 (SCA) at 243G-H.

transfer of thermal energy which resulted in the avascular necrosis occurred at the time of the performance of the second adhesiolysis, the defendant and his experts contended that it occurred at the time of the first.

132. Although the plaintiff's experts initially took issue with the use of a LigaSure to perform the adhesiolyses, by the end of the trial they agreed with the defendant's experts that it was not *per se* inappropriate for the defendant to have done so. Their issue was whether it was used in an appropriate *manner*, with due regard for its dangers. Although the plaintiff's experts initially contended that the defendant should have made use of alternative, bipolar or monopolar cautery devices, by the end of the trial they agreed with the defendant's experts that the use of such devices would not have been appropriate, as their thermal footprints exceed those of the LigaSure and the amount of thermal energy they discharge can be excessive, as it depends on the operator and is not automatically regulated, as in the case of the LigaSure.

133. Whilst it is so that, if the defendant had made use of an ordinary scissors there would have been no thermal damage and resultant necrosis, this could only have been done in respect of the adhesion at B14, and not the one at B23, which was complex and involved several large areas which had to be dissected from the surrounding structures. There was a divergence of opinion in relation to the adhesion at B14: the plaintiff's experts were of the view that the blood vessel in it was not substantial and the bleeding which would have been occasioned by a scissor or grasper dissection would have been minimal and could have been avoided, or at least staunched, by tying off the severed ends. The defendant's experts were of the view that the blood vessel was not insignificant, and bleeding was an issue, and using a LigaSure was consequently the proper way to deal with the adhesion. In my view the evidence was not such that it can be found that, in not using ordinary scissors or a grasper to deal with the adhesion at B14 the defendant failed to measure up to that standard of skill and care required of a reasonably competent practitioner, in his position.

134. In addition, whilst the plaintiff's experts initially postulated that the defendant should have converted the laparoscopy to open surgery i.e. a laparotomy, by the end of the trial they were in agreement with the defendant's experts that his decision not to do so in the circumstances which he found himself, given the

number, location and nature of the adhesions that were present in the abdominal cavity and his experience, was not inappropriate.

135. Ultimately therefore, the issue which requires determination pertains to the manner in which the LigaSure was used. Prof Cronje was of the view that, when performing the second adhesiolysis (at B23) the defendant must have gone too close to the bladder side of it and must have pulled the bladder wall into the LigaSure's jaws and burnt it. In his view this was where the thermal damage which resulted in the necrosis occurred. Dr Pienaar shared this opinion and expressed the view that the defendant must have applied the LigaSure against the bladder, more than once.

136. There are several reasons why these opinions cannot prevail. In the first place, the evidence of the defendant and his experts was that it was anatomically impossible for the plaintiff to have sustained the injury to the dome of her bladder as a result of the second adhesiolysis, as it was too far away at the time. In this regard the evidence which was tendered on behalf of the defendant was that it was about 6-8 cm away, and in his evidence, Prof Cronje conceded that the bladder dome was 'some distance away' from the area of thermal damage which was visible on photograph B23. None of the plaintiff's experts suggested that thermal energy from the LigaSure could have been transferred or extended for such a distance. Prof Cronje referred to a study in which it was found that thermal energy from a LigaSure can be transferred in surrounding or adjacent tissue, up to 9 mm away from it. Consequently, as the defendant's experts opined, in the event of thermal damage being caused to the bladder during the performance of the second adhesiolysis, it would have been towards the bottom, lower part of the bladder and the vaginal vault and not in the dome, and if avascular necrosis had set in it would most likely not have been in the dome. If this was possible nonetheless, given the distance involved, it was for the plaintiff to have put up such evidence.

137. In the second place, the evidence of the defendant and his experts, which was not controverted, was that, had the defendant caused the peritoneum and bladder to be pulled into the jaws of the LigaSure during the second adhesiolysis there would have been a large cut or perforation to the lower, bottom part of the bladder wall with an almost immediate failure of the bladder, within no more than a few hours. Such a perforation would not have been the

result of a process of avascular necrosis but the result of a direct insult to the bladder. In such an event the plaintiff would have been admitted to hospital within a day or so of the procedure and not 11-12 days post-operatively.

138. In the circumstances, one must rule out the adhesiolysis at B23 and one must also exclude the thesis that the bladder was pulled into, and gripped in, the jaws of the LigaSure and burnt, during either adhesiolysis.

139. That leaves the adhesiolysis at B14, which is not well depicted on the photographs, of which, compared to the one at B 23 there are only a few. None of the available photographs that deal with this adhesiolysis show that there was any thermal damage caused during the dissection/ligation. As the defendant's assistant took photographs of thermal damage which was sustained during the second adhesiolysis, there is no cause or reason to believe that, had such damage also been sustained during the first, she would not equally have taken photos of it.

140. The defendant's evidence was that after he had dissected and ligated this adhesion there was no visible thermal damage to the adjacent tissue. This tallies with his evidence that there was a sufficient margin of safety on either side of the LigaSure for him to place it at a point 'one-third/two-thirds' along the adhesion, closer to the bladder side thereof than the bowel, to avoid injuring the latter. None of the witnesses gave evidence as to the precise size, or rather the length, of this adhesion. Dr Pienaar was unable even to provide an estimation as there was not an instrument or device visible in the photograph at B14 which could serve as a reference. In this regard it was common cause that the images in the photographs were magnified views and not actual ones. Dr Fölscher thought the adhesion was somewhere between 2 and 3 cm long. If one were to assume, using this rough estimation, that it was about 2.5 cm long, and the LigaSure had a thermal footprint of 7½-8 cm, then the defendant would not have been within the lateral spread margin of 2 mm if he placed it at a spot one-third along the adhesion, closest to the bladder side of it.

141. This raises the pertinent question of what the safety margin was within which the defendant was required to operate. The plaintiff's experts failed to establish this in their evidence, which came down to the simple contention that the defendant had either adopted no safety margin at all, by pressing the LigaSure up against the peritoneum, and thus against the bladder wall behind it (which

as I have found was not proven in evidence), or came ‘too close’ to these structures. But what is ‘too close’? It seems, from their evidence, that they were contending that the safety margin was in the order of about 2 mm, to allow for the lateral thermal spread which extends on the side of the LigaSure’s jaws. The difficulty with this is that, on Prof Cronje’s understanding of the literature, thermal damage can extend up to 9 mm away from the source. Thus, to rule out the possibility of any thermal damage and resultant avascular necrosis ever being sustained, a surgeon would have to operate with a safety margin of about 12 mm when performing an adhesiolysis in the abdominal cavity.

142. However, none of the experts said that they applied such a margin when they used the LigaSure, in the many laparoscopies which they performed, over many years. It seems to me that without the necessary standard or benchmark at least being established in evidence, it cannot be said that the defendant was negligent in that he failed to measure up to that standard of care that would have been exhibited by a reasonable gynaecologist in his position. Whether it would even have been possible to set such a margin in evidence seems to be doubtful, given that there was no evidence as to the (likely or approximate) distance between the perforation on the dome and the spot where the LigaSure was applied on the adhesion at B14. Once again, this is an aspect which the plaintiff’s experts should have dealt with.

Conclusion

143. In the circumstances, in my view the plaintiff failed to show that, in his use and application of the LigaSure during the performance of a laparoscopic procedure on her on 19 April 2016, the defendant was negligent, and that such negligence resulted in her sustaining a perforation in the dome of her bladder. In my view the perforation to the bladder was an unfortunate complication, of the kind which, as the defendant’s experts explained, can occur in the best of hands.

144. As far as costs are concerned these should follow the event. The bulk of these were incurred before 12 April 2024, on which date the amendments to rule 67 (in the form of rule 67A) read with rule 69, were gazetted, which require the court to stipulate in its order for costs, on what scale they should be. The amendment is only applicable to costs that were incurred from 12 April 2024 onwards. Costs incurred prior to that date fall to be dealt with by the taxing master in accordance with the previous dispensation which applied.

145. As the amendment is applicable to attendances and services rendered in the High Court by advocates and attorneys with a right of appearance, and the defendant was represented by a senior attorney with such a right, it is necessary to make a directive in this regard.

146. To determine what the scale should be the rule provides that the court should have regard for the complexity, value and importance of the matter. The plaintiff was represented by an advocate of many years standing, who submitted that, in the event of success costs should be awarded on the highest scale, scale C. In his submissions the defendant's attorney did not contend for the award of costs on a particular scale and left the matter in the hands of the court.

147. Having regard for all the applicable factors, I make the following order:

147.1 The action is dismissed.

147.2 The plaintiff shall be liable for the costs of suit, which, in respect of attendances after 12 April 2024 shall be on scale C, and which shall include the qualifying fees and costs of the attendance at the hearing of the defendant's expert witnesses, Drs Fölscher and De Jong.

M SHER

Judge of the High Court

(Signature appended digitally)

Appearances:

Plaintiff's counsel: CH Botha

Plaintiff's attorneys: Sloet & Burger Inc (George)

Defendant's attorney: GP Van der Merwe (MacRobert Attorneys, Cape Town)