PREVENTING INJURY TO THE URETERS AND BLADDER

that he faces a problem in which it will be very easy to injure these organs and operative procedures which have been useful in helping to avoid injury to these organs. Lack of space prevents the consideration of these injuries in vaginal operations for they occur in both types of gynecological procedures. The author claims no originality for any of these technical steps, even though there are one or two which he has never seen in print.

Success in avoiding injury to the urinary organs is not, however, entirely a question of manual dexterity or knowledge of certain surgical tricks. There is no technical magic that can replace sound judgment, accurate diagnostic ability and carefulness in the operating room. The author remembers hearing Halsted state that he could teach a student how to perform the necessary surgical operations in one year. But he did not deem it a waste of time to spend six, eight or nine years in mastering the principles of surgery. Finney used to say that success in surgery depended upon meticulous attention to minor details. With these thoughts in mind, the author presents his experience in attempting to manage a problem which is of daily concern to all who do major gynecologic surgery.

BIBLIOGRAPHY


DISCUSSION.—Dr. Leo Brady, Baltimore, Md.: The measures which Dr. Wharton has pointed out will doubtless be of help to many surgeons in avoiding injury to the ureters. In the past 25 years I have made it a rule, no matter what type of pelvic operation I am performing, to identify both ureters and palpate them from the point where they pass over the iliac vessels to where they pass under the uterine arteries to enter the bladder. This is, of course, not necessary in many cases, but by doing it routinely I believe that one may increase his ability to identify the ureters when it is really necessary. Moreover, this gives me an opportunity to demonstrate pelvic anatomy to my house officers. Incidentally it is easier to follow the course of the right than the left ureter, because the sigmoid sometimes seems to get in the way on the left side.

Some years ago I had an experience which, while admittedly unusual, has some clinical importance in connection with what Dr. Wharton has said. I was assisting a young house officer to perform his first appendectomy. Probably he has now developed into a capable surgeon, but at that time he was suffering from a misapprehension that speed is the most important factor in operating. In a matter of seconds he had made a McBurney incision, was in the peritoneal cavity, had grasped and pulled up the cecum and was just on the point of placing clamps on the meso-appendix when I slowed him up. The patient was one of those visceroptotic individuals whose interperitoneal organs have excessive mobility, and in delivering the cecum the young man's fingers must have grasped the medial shelf of the pelvic peritoneum, pulling up the unusually mobile ureter and rolling it into the meso-appendix. Anyhow, it was only because of my not being as rapid a surgeon as the house officer that the patient's ureter escaped being severed. Of course, this was a most unusual occurrence, but the ureters are often found in places far removed from where the anatomic textbooks picture them.

Dr. Curtis Tyrone, New Orleans, La.: I do not see how I can add anything to this excellent presentation, but one thought occurred to me as Dr. Wharton was showing how to avoid the ureter and bladder in abdominal operations, for instance, hysterectomy. He did not mention vaginal hysterectomies, and I think that subject should be considered, because the incidence of vaginal hysterectomy is increasing in this country and along with it there is an increased incidence of bladder and ureteral injuries. I am sure that what Dr. Wharton has suggested, as far as abdominal surgery is concerned, would certainly be true in regard to vaginal surgery.

Dr. Lawrence R. Wharton, Baltimore, Md. (closing): The only reason I did not say anything about vaginal operations is because we have two timekeepers here.

In avoiding ureteral and vesical injuries during vaginal operations, the same basic principles are involved as in abdominal surgery. Among the essentials are clean dissection, hemostasis and seeing what you are cutting and tying. I think it is just as easy to injure the bladder or ureter during a vaginal operation as during an abdominal. There are many important factors in avoiding such injuries, but these are not in the province of this paper. I am sorry they could not be mentioned.

I appreciate the discussion of Dr. Brady and Dr. Tyrone.