# The Transverse Vesical Fold is a Nontransient and Vascularized Structure


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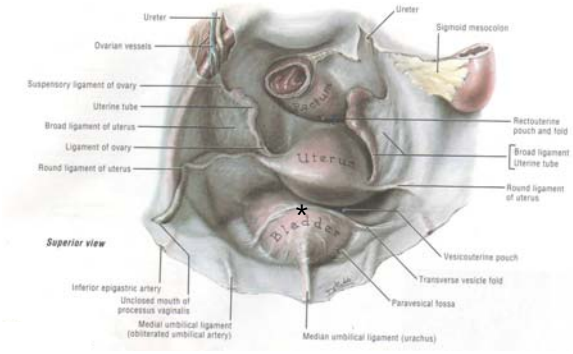
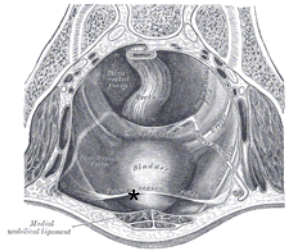
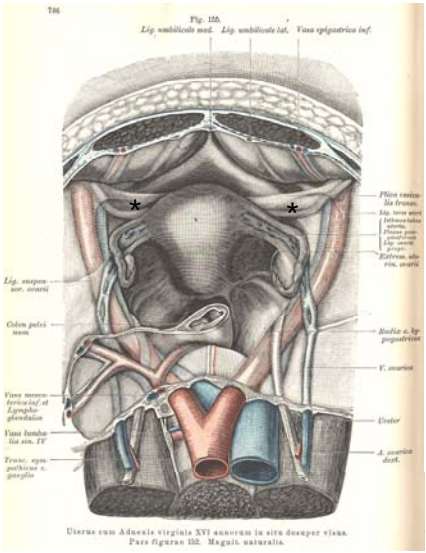
Laparoscopy provides a dynamic persepctive that can alter long-held and sometimes erroneous conceptions of anatomical structures in the peritoneal cavity. The transverse vesical fold (*plica transversus vesicalis*) is a salient peritoneal laparoscopic feature of the anterior pelvic cavity and stretches between the lateral side of the urinary bladder to the pelvic wall, subdividing the paravesical fossa. However, it is rarely clearly visualized in the embalmed cadaver and is not figured in most current anatomical atlases. In an oft-quoted reference from early editions of *Gray's Anatomy* the transverse vesical fold is stated to disappear when the bladder is full. We report here that this is not the case. Although showing individual variability in its prominence, the transverse vesical fold in the living patient in a nontransient structure and in fact becomes more prominent as the bladder is stretched during filling. Cadaveric dissection of the transverse vesical fold demonstrates that this structure is a vascularized peritoneal fold usually containing one or more branches of the superior vesical artery. These findings correspond well with Waldeyer's original nineteenth century description of the transverse vesical fold. It is clearly inappropriate to apply Waldeyer's term to the shallow groove on the posterosuperior border of the bladder connecting the medial ends of the two transverse vesical folds. Waldeyer figured this area but clearly labelled it as the "roof" ("obtecta") of the bladder. We propose that this groove be termed the "obtectal groove of the bladder," and suggest that it, not the transverse vesical fold, tends to disappear with a filled bladder.

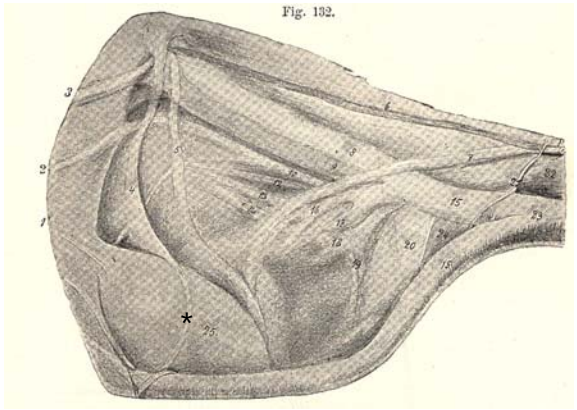

The transverse vesical fold as illustrated in *Grant's Atlas of Anatomy*, Anne M.R. Agur, 9th ed., 1983, Figure 3.45. The asterisk identifies the structure termed here the "obtectal groove" as seen in the cadaver or "obtectal fold" as more frequently visualized laparoscopically in the living patient.




The "transverse vesical folds" as illustrated and incorrectly applied in Gray's *Anatomy of the Human Body*, 20th ed., ed. W.H. Lewis, 1918, Fig. 1037. The asterisk identifies the structure identified here as the "obtectal groove or fold." It is this latter structure, not the transverse vesical fold, that disappears when the bladder fills.

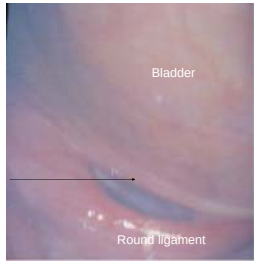


The transverse vesical folds, marked with asterisks, in a female, as originally figured by Waldeyer (1899). Waldeyer's figure courtesy of the Royal College of Surgeons, London.




Waldeyer's (1899) illustration of the transverse vesical fold (4), as distinguished from the peritoneal reflection coursing across the roof of the bladder (25), marked by an asterisk and referred to here as the "obtectal groove [fold] of the bladder." Waldeyer's figure courtesy of the Royal College of Surgeons, London.


Dissection of the left side of the paravesical fossa of an adult female with the anterior body wall reflected anteriorly. The transverse vesical fold is revealed as a vascularized peritoneal fold. The fold is underlain by branches of the superior vesical artery. Abbreviations: TVF = transverse vesical fold, SVA = superior vesical artery, OUA = obliterted umbilical artery, RL = round ligament, EIA = external iliac artery, IL = iliacus muscle, AL = arcuate line




Laparoscopic view of the left side of the filled bladder of a female patient. The transverse versical fold can be seen clearly, thus vitiating Henry Gray's (1918) opinion that the structure disappears when the bladder is filled. Compared to the view at left, the expanded bladder has here displaced the fold posterolaterally and brought it in apposition to the round ligament.