CURRENT APPROACH TO LIGAMENTS OF UTERUS

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Abstract

The ligaments of the female reproductive tract are a series of structures that support the internal female genitalia in the pelvis. M. Levator ani and the ligaments carries the internal female genitalia M. Levatorani; is an important, large and thin muscle that covers the pelvic floor. These ligaments are, ligamentum (lig.) transversum cervicis (colli), lig. pubocervicale, lig. sacrocervicalis, lig. latum uteri and lig. teres uteri. Lig. transversum cervicis (colli); are also known as Cardinal ligaments, or Mackenrodt’s ligaments. These ligaments arise from the side of the cervix and the lateral fornix of the vagina. Lig. pubocervicalis; are bilateral structures, which attach the cervix to the posterior surface of the pubis symphysis. Lig. sacrocervicalis; are also bilateral fibrous bands, which attach the cervix to the sacrum. They have a fibro muscular structure Lig. latum uteri (Broad lig.); The Broad ligament is a flat sheet of peritoneum, associated with the uterus, fallopian tubes and ovaries Lig. Teres uteri (lig. Rotundum); it originates at the uterine horns, and attaches to the labia majora, passing through the inguinal canal. Today, it is very important to know the structures carrying the uterus in the surgical procedures and in the diagnosis which will be applied to the uterus and the surrounding structures in the clinic.

Keywords: Ligament of Uterus, Current, Approach

1. Introduction

The ligaments of the female reproductive tract are a series of structures that support the internal female genitalia in the pelvis. Levator ani muscle and the ligament scaries the internal female genitalia.

Levator ani muscle; is an important large and thin muscle that covers the pelvic floor. Levator ani muscle and fascia diaphragmatis pelvis superior are the most important structures carrying the internal female genitalia. Medial of the proximal part of this muscle extends to the cervix uteri.
that avoid desensus of uterus and also regulate the intra abdominal pressure. Some of these uterus ligaments are periton plicas and some of them are fibrous band of tissue and smooth muscle. These are; ligamentum (lig.) transversum cervicis (colli), lig. pubocervicale, lig. sacrocervicalis, lig. latum uteri and lig. teres uteri (Arıncı and Elhan, 1997).

Lig. Transversum cervicis (colli): are also known as Cardinal ligaments, or Mackenrodt’s ligaments. These ligaments a rise from the side of the cervix and the lateral fornix of the vagina (fig1). They provide an extensive attachment on the lateral pelvic wall at the level of the ischial spines. Some fibres of the cardinal ligaments interdigitate with fibres from the utero sacral ligaments. This attachment line is known as arcus tendineus fasciae pelvis. The anterior fibres of this ligament continues with lig. pubocervicalis, the posterior fibres continues with lig. Sacro cervicalis. Arteria vaginalis and smooth muscle fibres supports this ligament (Ma at all, 2015).

Lig. pubo cervicalis; are bilateral structures, which attach the cervix to the posterior surface of the pubic symphysis. This ligament attach to the bladder. These fibres are known as lig. pubo vesicalis.

Lig. Sacro cervicalis; are also bilateral fibrous bands, which attach the cervix to the sacrum. They have a fibromuscular structure. This smooth muscle is recto-uterin muscle. This ligament forms the lateral plicas of excavatio recto uterina (Stoesser, 1955).

Lig. latum uteri (Broad lig.); The Broad ligament is a flat sheet of peritoneum, associated with the uterus, fallopian tubes and ovaries (fig.1). It extends from the lateral pelvic walls on both sides, and folds over the internal female genitalia, covering their surface anteriorly and posteriorly (Aas-Eng at all, 2016).
Anatomically, the Broad ligament can be divided in to three regions: Mesometrium surrounds the uterus and is the largest subsection of the Broad ligament. Mesovarium part of the broad ligament associated with the ovaries. Mesosalpinx originates superiorly to the mesovarium, enclosing the fallopian tubes. The connective tissue between two layers of lig. latum uteri is parametrium. Parametrium which surrounds vagina is paracolpium. The serous membrane which covers the uterus is perimetrium (Aas-Eng at all, 2016).

The structures within the Broad ligament are: Parametrium, uterin artery, tuba uterina, lig. teres uteri (lig. rotundum), ovaries and ureter (Langreder, 1958).

Uterin artery; runs into lig. latum uteri from the attachment side of pelvis, it crosses the ureters superiorly. It anastamoses with the ovarian artery at the origin of the fallopian tubes.

Tuba uterina; they lie in the upper border of the Broad ligament, extending laterally from the uterus.

Lig. teres uteri (lig. rotundum); it originates at the uterine horns (the points at which the fallopian tubes enter the uterus), and attaches to the labia majora, passing through the inguinal canal (Langreder, 1958).
Ovarium; oval organs attached to the posterior surface of the Broad ligament of the uterus by the mesovarium (a fold of peritoneum, continuous with the outer surface of the ovaries).

Ureter; cross the pelvic part of the lig. latum uteri in an oblique manner and reaches the bladder.

Pilica vesico uterina; a periton pilica which connects to the posterior of bladder from the junction of cervix and corpus uteri. This pouch known as excavatio vesico uterina.

Plica recto uterina (Douglas plica); a periton plica which connects to the anterior of rectum from posterior fornix of vagina. This pouch known as excavatio recto-uterina. (Douglas pouch)

Douglas pouch is the deepest place in female pelvis and situated 5cm above the anus. Drainage of Douglas pouch can be performed by an incision of posterior vaginal fornix in clinical practice.

The exact anatomical location of the uterus varies with the degree of distension of the bladder. In the normal adult uterus, it can be described as anteverted with respect to the vagina, and anteflexed with respect to the cervix.

Anteverted: Rotated forward, towards the anterior surface of the body.

Anteflexed: Flexed, towards the anterior surface of the body.

Thus, the uterus normally lies immediately postero superior to the bladder, and anterior to the rectum.

In some individuals, the uterus may not lie in an anteflexed and anteverted position. The three most common dispositions are:

- excessively anteflexed
- anteflexed and retroverted
- retroflexed and retroverted

These abnormal arrangements do not inherently cause any medical problems and infertility. The weakness of these ligaments and muscles cause many problems such as prolapse of uterus. We will discuss this pathology, treatment and conditions associated with prolapse of uterus (Berek and Novak, 2007).
2. Desensus Uteri (Uterus Prolapse)

Movement of uterus into the vaginal canal, causing the condition known as a prolapsed uterus. Prolapsed uterus can be described in the following stages:

First degree: The cervix descends downward into the vagina.

Second degree: The cervix comes down to the opening of the vagina.

Third degree: The cervix is outside the vagina.

Fourth degree: The entire uterus is outside the vagina.

Other conditions usually associated with prolapsed uterus are:

Cystocele: A herniation of the upper front vaginal wall where a part of bladder bulges into the vagina, which may lead to urinary frequency, urgency.

Enterocoele: The herniation of the upper vagina along with a segment of small intestine into the vagina.

Rectocele: The protrusion forward of the back wall for the vagina, along with concomitant bulging forward of the rectum into the vagina. This may make bowel movements difficult to the point where the woman may need to push on the inside of the vagina to empty the rectum (Claudia at all, 2012).

The choice of surgery for uterine prolapse depends upon many factors, including the patient's age, and desire for future child bearing. When indicated, and in severe cases of prolapse, the uterus can be removed (hysterectomy). During the procedure, the surgeon can also correct the sagging of the vaginal walls, urethra, bladder, or rectum. (Colpo graphy anterior and posterior) (Berek and Novak, 2007).

Vaginal cuff prolapse; after hysterectomy. Sacrocolpopexy is a surgical technique to repair pelvic organ prolapse. Specifically, it is intended to address apical or vaginal vault prolapse in women. Reconstruction is achieved using an open abdominal technique or with the use of laparoscopy or robotic-assisted surgery. The salient component of reconstruction is suspension of the apical portion of vagina (or the vaginal cuff in patients after hysterectomy) in a manner that recreates the natural anatomic support that the utero sacral and cardinal ligament sprovide, usually by tacking it to the sacral promontory (Berek and Novak, 2007).
3. Results

Today, it is very important to know the structures carrying the uterus in the surgical procedures, prolapse and in the diagnosis which will be applied to the uterus and the surrounding structures in the clinic.

References


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