DYSPAREUNIA- An Overview

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Abstract

Dyspareunia is a well-known disease, it is however difficult to determine the origins of pain. More than 200 diagnoses are associated with pelvic pain and pain during sexual intercourse. A multifactorial etiology of the pains is common.

The possible sources cover a wide field, ranging from anatomical disorders to psychological and social problems.

The incidence of pain lies between 8 to 22% (Latthe P 2006). Pain can be acute or chronic, light or severe, occur suddenly or life-long, in every sexual position or only in one, merely with a specific partner or with all partners.

Sexual pain influences women's health, relationships, quality of life, and work.

Keywords:

dyspareunia, sexual pain, vulvodynia

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Localizing the source of the pain can lead to the diagnosis:

- Pain during stimulation
- Pain during penetration
- Vulvodynia
- Pain at the beginning of the vagina (vaginismus)
- Pain in the middle third of the vagina
- Pain in the region of the cervix (Douglas)
- Pain in the abdomen
- Headache after orgasm

Visualizing the location of pain on a map and recording a diary of the pain can be especially helpful with the respective situation. Pain can be localized in one or several places.

Laboratory tests are not very useful, except for identifying endometriosis (Ca 125) and infections (CRP and leucocytes). Urine analysis can be useful in cases of infection of the bladder.

Ultrasound may be necessary to visualize possible abnormalities. Sometimes you will not reach a diagnosis, in which case a laparoscopic approach is necessary.

Risk factors for dyspareunia are depression, anxiety, physical or sexual abuse, age (>50y), and peri- or postmenopausal status.

Family conflicts and quarrels with the partner are risk factors as well.

Pain can lead to avoidance or refusal of sexual contact. In this case, women do not want to engage in sexual activity and refuse their partner. This in turn can lead to conflicts in partnership, even divorce.

Anamnestic questions must be asked **very** carefully. You can start with the sentence:

"I have to ask very intimate questions, but that is necessary to be able to give you my best advice".Many patients have problems communicating with a doctor unknown to them.

Many also have problems communicating openly with their partners about sexual problems. You should use the same dialect of language when speaking with the patient, to facilitate mutual understanding of which part(s) of the genitals are concerned.

A map of the genitals is very useful, as some patients are unfamiliar with their genitals and the terms for the different regions and parts. When advising patients on dyspareunia, you need much time for conversation and should never be in a hurry.

Examination:

All steps should be conducted very gently. You have to look at the vulva, the vagina, and the cervix with specula. A Pap smear should be taken from the cervix, and cultures for bacteria, chlamydia, ureaplasma, and other infections as well.

Therapeutic measures consist of specific antibiotics, corresponding to the antibiogram. Taking a HPV smear would be helpful as well. Palpation should be done very carefully.

A meticulously conducted vaginal ultrasound is obligatory, perhaps with colored Doppler examination.

If the diagnosis is still unclear, you have to offer a laparoscopy. In this case, you must also examine without gas pressure, to be able to notice possible expanded veins (which would point to pelvic congestion syndrome).

Pain during stimulation

This may be chronic or acute. Acute pain is caused by infections of the vulva like Herpes genitalis (Fig 1), Condylomata acuminata, Trichomoniasis, or candidiasis. Very often, penetration is not possible (eg Bartholin's cyst).

An abscess of the vulva may also be the source of pain during stimulation, here, antibiotics should be given as well. An abscess should be surgically treated.

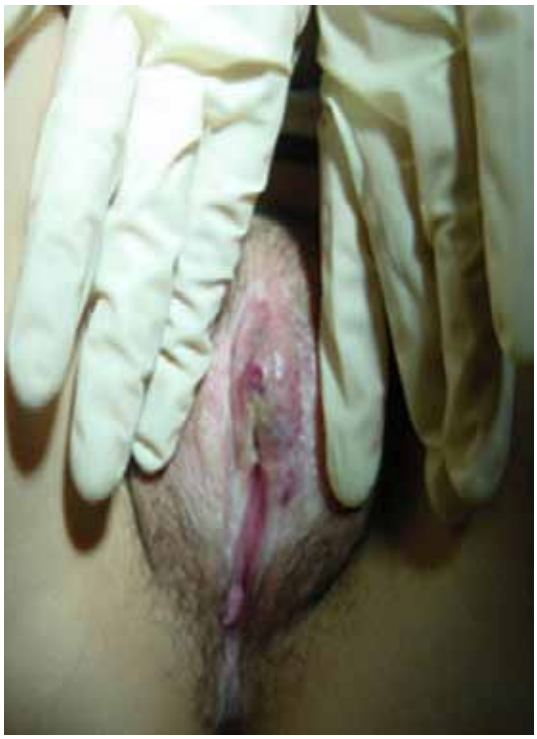

Fig. 1 Herpes Genitalis

Chronic pain can be caused by a lack of estrogen, which frequently occurs in peri- and postmenopause. Here, estrogen should be given locally; if there is a contraindication against hormones, you can give medication with hyaluronic acid.

Dermatologic diseases can cause chronic pain, such as lichen planus or lichen sclerosis.

Female genital cutting can cause severe pain during penetration by the penis. There is only one therapy option, operation and reconstruction.

Other types of pain in the vulva can be caused by neoplastic or neurologic processes (post-herpetic neuralgia), female genital cutting, obstetric injuries, postoperative (vulvectomy), or after radiation.

Pain during penetration

The aforementioned dermatologic diseases, lichen planus and lichen sclerosis, can cause anatomic disruption, fusion of the labia minora and maiora, fissure, and sometimes fusion over the clitoris.

All these conditions lead to a stenosis of the introitus vagina and make penetration impossible.

In these cases, adhesions should be cut and local corticoid ointment prescribed. Gentle care products are to be used.

Vulvodynia

Vulvodynia is a disease of unknown etiology.

Patients with vulvodynia have a particularly reduced quality of life. If all other diagnoses (infections, neoplastic and neurologic) are excluded, you can speak of vulvodynia.

The pain must persist for at least three months.

The frequency of occurrence for vulvodynia lies between 3 and 15% (Reed 2006). Often, the patients suffer from anxiety, depression, or other psychosocial factors (Chisari 2021) and have increased muscle tension in the pelvic region.

Analyses of biopsies show an abnormal immune reaction. Chronic infections may lead to abnormal immune reactions (Foster 1997).

Allergy is another course of vulvodynia and can be treated by antihistamines. Vulvodynia does not cause abnormal laboratory tests.

Very often, vulvodynia co-occurs with fibromyalgia, interstitial cystitis, and irritable bowel syndrome.

Treatment:

There is not a "one size fits all" treatment (Kellogg Spadt 2021).

Treatment has to include vulvar hygiene, stress reduction, pelvic floor physical therapy, cognitive behavioral therapy, sexual medicine therapy, and medication.

Medication should consist of topical lidocaine ointment, local estradiol, possibly combined with testosterone, or Botox, which we try at our clinic.

Among antidepressants, tricyclic antidepressants can be administered, selective serotonin or norepinephrine reuptake inhibitors (SSRI and SNRI) can also be used.

Anti-seizure medications like gabapentin, pregabalin, and carbamazepine are proven medications.

I have had good results with skinning vulvectomies by CO2 laser (Fig 2).

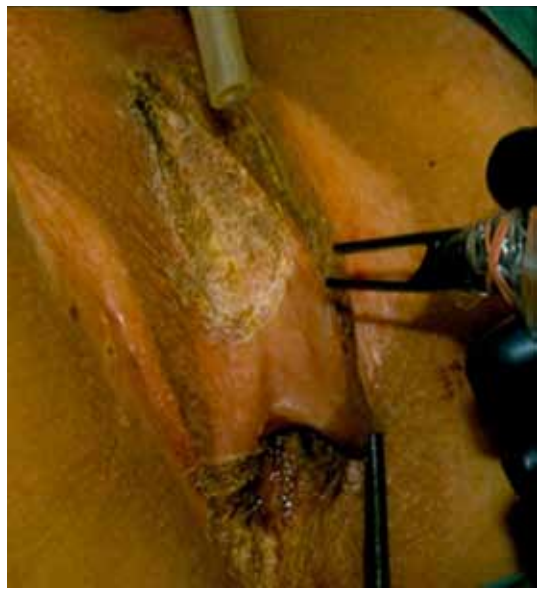

Fig. 2 Skinning vulvectomies by CO2 laser

Pain at the beginning of the vagina (vaginismus)

Sometimes pudendal neuralgia occurs in the region of the pudendal nerve, which can be relieved by pudendal nerve block. More often it is an infection of the urethra, which can be treated by antibiotics or increased water intake.

Vaginismus is known as "genito-pelvic pain/penetration disorder".

The exact incidence is unknown, it may lie between 5 to 42% of all sexual disorders (Oniz 2007).

Vaginismus is categorized as primary, secondary, situational, spasmodic, or complete vaginismus.

The treatment is very difficult, as it also occurs after sexual abuse. In this case, psychotherapy is necessary as well. Other therapies aim to relax the tightened muscles.

Another therapeutic possibility is to use dilators with increasing diameters: with these, it is possible to train the experiencing of sensation in the vagina.

Local anesthesia can be used to avoid pain.

Pain in the middle third of the vagina

Very often, this is caused by a chronic infection of the bladder or the bladder pain syndrome/interstitial cystitis.

The etiology is not well understood, and it is only possible to reduce pain. It often co-occurs with fibromyalgia or irritable bowel syndrome.

The incidence of the disease lies between 2,7 and 6,5% (Berry SH 2011).

If this problem arises, it is necessary to make a cystoscopy, so as not to overlook a carcinoma of the bladder, which may cause pain as well.

Pain in the region of the cervix (Douglas)

Pain in the region of the cervix can be caused by infection, cancer, or endometriosis.

For infections, you can use local or systemic antibiotics, according to the antibiogram.

Cancer should be treated according to the stage of the tumor.

Endometriosis is defined as endometrial tissue growing outside the uterine cavity.

The stage of the disease does not correspond to the severity of the pains.

The gold standard in confirming the disease is laparoscopy and the removal of tissue, the histology proves the diagnosis.

Every visible tissue with endometriosis should be excised. Not all endometrial tissue can be removed (non-visible endometrial growths, structures in the sigma, rectum, bladder, and so forth).

It is necessary to give hormones to stop growth for about 6 months.

Pain in the abdomen

Abdominal pain can be caused by infections of the tubes (Fig 3), diverticulitis of the sigma, by cancer of the ovaries, the bladder, or the intestinum.

For infections, you should use broad-spectrum antibiotics, for diverticulitis, conservative therapy by diet may be tried.

Cancer should be treated according to protocols (Fig 4).

A varicosity of the veins in the pelvis, the so-called pelvic congestion syndrome, causes severe pain during coitus and in standing positions.

The VEIN-TERM transatlantic interdisciplinary consensus document of the American Venous Forum (AVF) describes PCS as a chronic venous disease, comprising pelvic and post-coital pain, perineal heaviness, and acute urinary urge, caused by ovarian or pelvic venous reflux or obstruction.

Vulvar or perineal varicosities may also be observed (Eklof 2009).

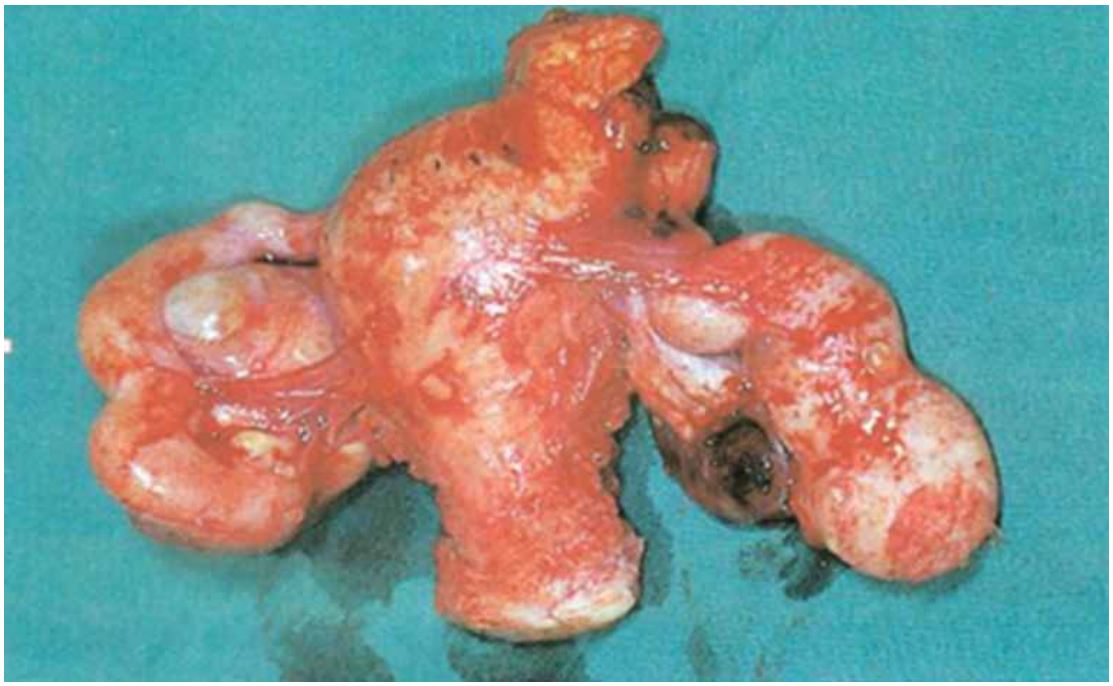

Fig. 3 Abdominal pain caused by the infections of the uterine tubes

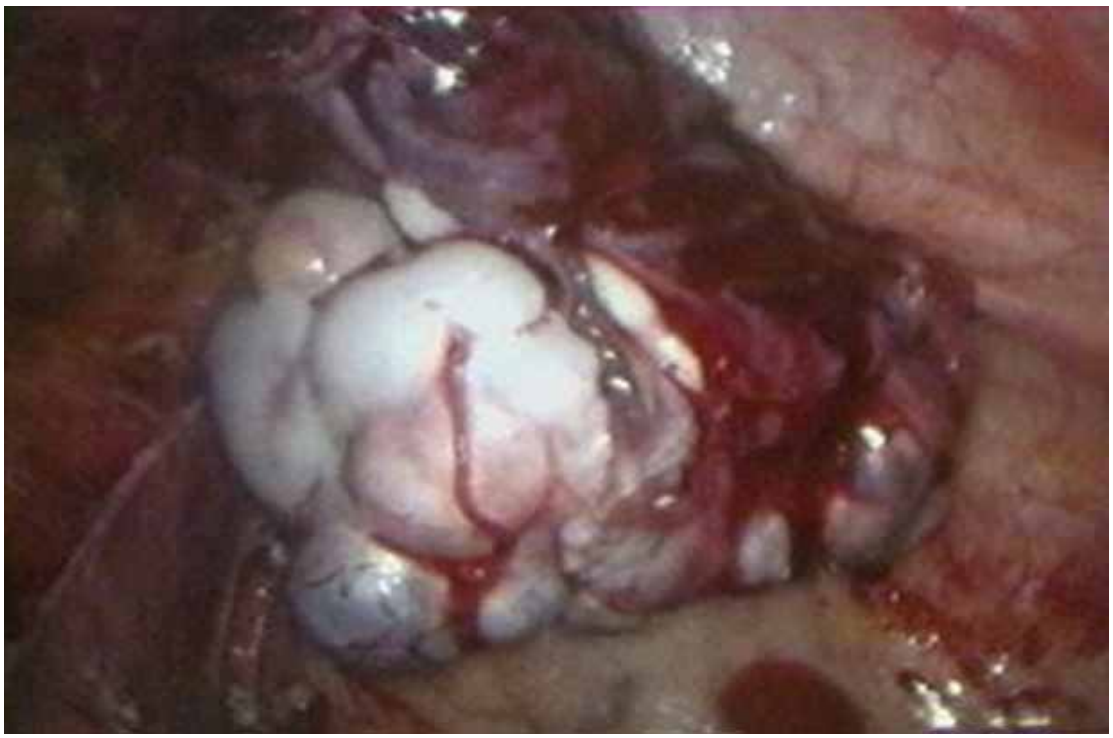

Fig. 4 Uterine cancer

Premenopausal multiparae appear to be most frequently affected (Brown 2018). Radiological examination demonstrating insufficient, congested pelvic veins presents the second pillar of Pelvic congestion Syndrome (PCS) diagnosis (Fig 5).

Guidelines or consensus statements regarding the choice of radiological techniques or diagnostic cutoffs for pathologic venous diameters, however, are not available to date (Rozenblit 2001).

Considering the lack of standardized diagnostic criteria and high rate of under-diagnosis, correct anamnesis remains the main pillar of correct PCS diagnosis (Durham 2013).

Pelvic congestion syndrome can be treated by embolization of both ovarian veins (Bartl 2021).

Embolization should be performed by an experienced interventional radiologist in an outpatient setting.

The intervention is done in local anesthesia via a femoral or jugular venous access. The left renal vein is cannulated with a 5 French Sidewinder catheter I or II and a diagnostic phlebography is made. A prompt filling of the ovarian vein in combination with a filling of the enlarged pelvic veins in most cases proves that there is an insufficiency of the vein.

A microcatheter and a microwire are advanced via the ovarian vein into the periuterine veins and the embolization/sclerotherapy of the whole ovarian vein is conducted using Aethoxysclerol 2 or 3% and micro coils (Fig 6).

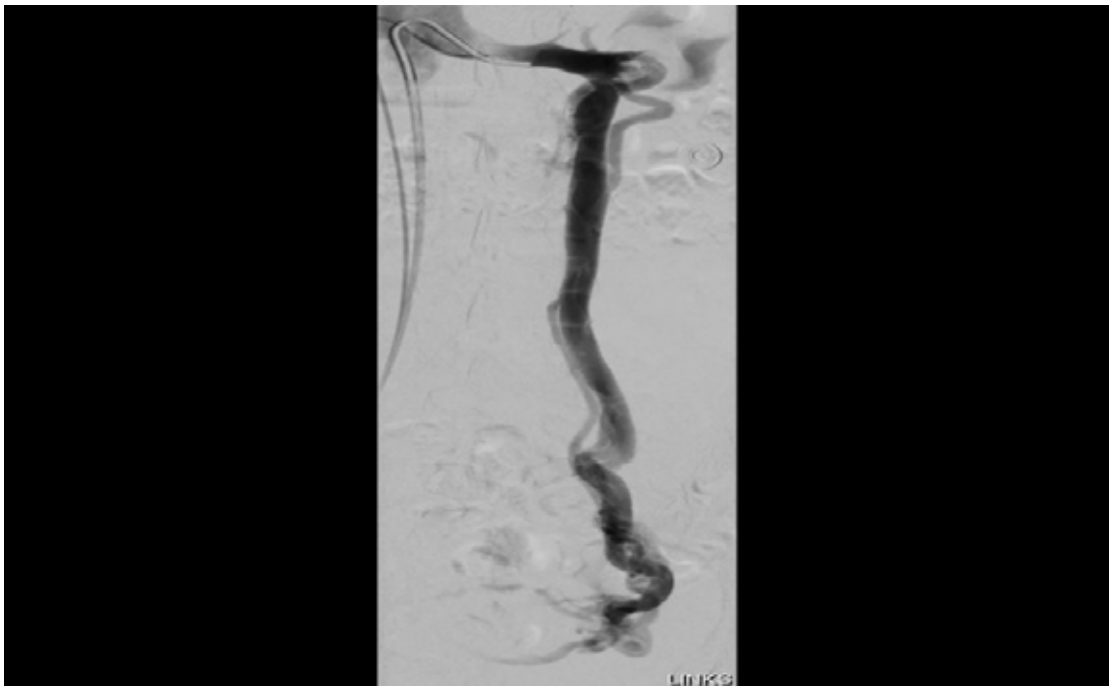

Fig. 5 Angiography of left ovarian vein before coiling. It demonstrates an insufficient left ovarian vein dilated up to 11mm.

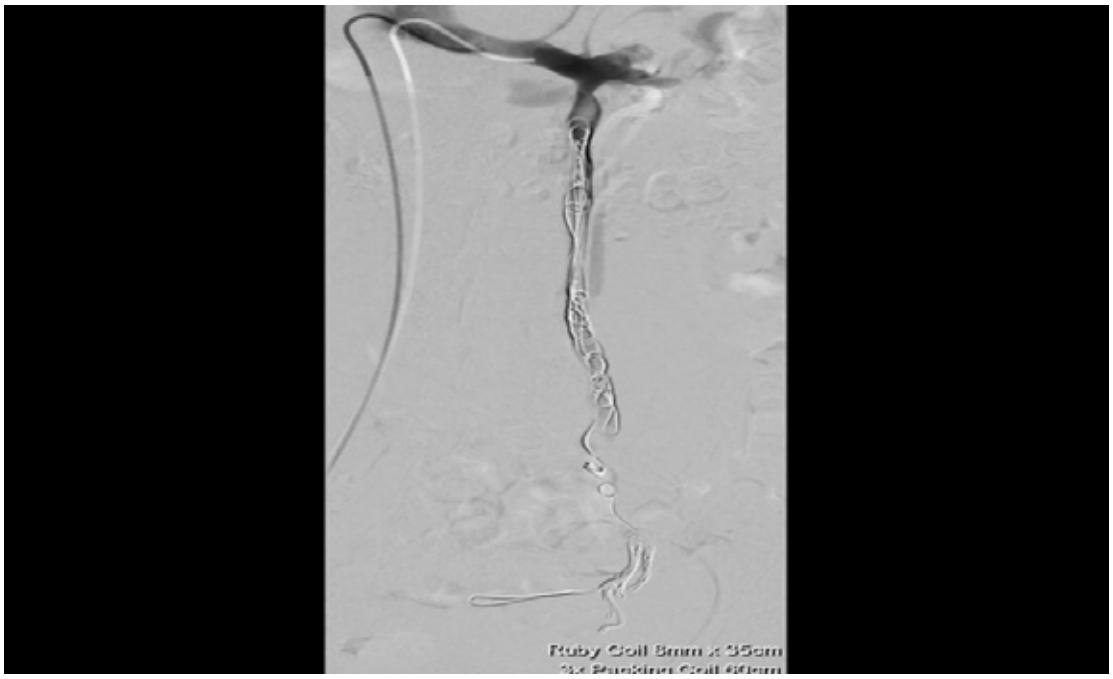

Fig. 6 After coiling, there is no more flow depictable.

Subsequently, the right ovarian vein is cannulated via the inferior vena cava, if it is also insufficient, it should also be embolized/ sclerosed.

A manual compression for the puncture site is performed and a compression bandage is applied.

The patient can leave the hospital after two hours and is immediately free of pain, which also persists until years later.

Fibromas of the uterus and ovarian cysts can cause pain as well, especially if they are fixed (after infection or if they are near the cervix). The pictured myoma pressed on the ureter too, and it was necessary to remove it because of kidney congestion (Fig 7). The patient also experienced pain during sexual intercourse, but she refused coitus. Headache

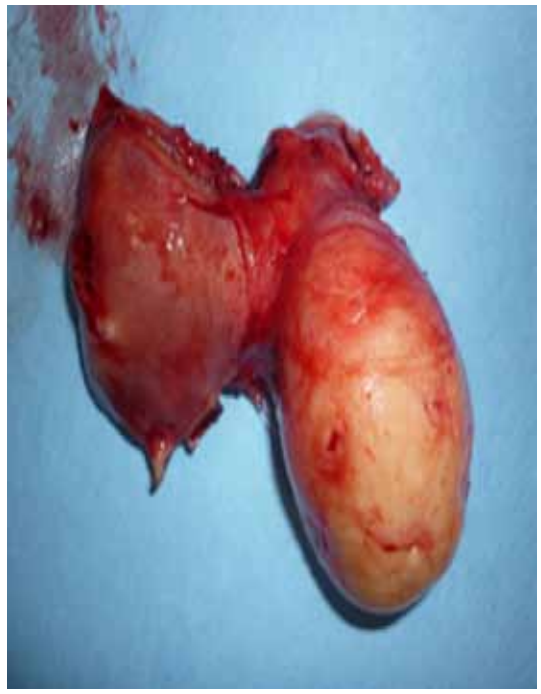

Fig. 7 Myoma on the ureter.

Ovary remnant syndrome: if part of the ovary remains after removal (after infections or endometriosis) and becomes fixed in the spatium rectovaginale, or after a vaginal hysterectomy, during which the ovaries are inadvertently sutured to the pouch of Douglas, the penis can knock the remainder of the ovary/the ovaries during intercourse and cause significant pain to the woman. Here, surgery must be performed to remove the remainder of the ovary or to sever the suture and attach the ovaries to the lateral pelvic wall.

Abdominal pains also sometimes occur if there is a cysto- or rectocele or a prolapse (Fig 8a, b).

These conditions can only be treated by surgical intervention, preferably with laparoscopic surgery.

Headache after orgasm

Headache and short unconsciousness after orgasm can be caused by a lack of oxygen in the brain.

Hemodynamic changes, increasing of blood pressure, occur during sexual intercourse and can lead to migraine headache.

The attending physician must be careful and observant, as there may be a tumor in the brain or bleeding of a ruptured brain aneurysm. This occurs rarely, the incidence lies at about 1% (Rasmussen BK 1992).

Preorgastic headache is caused by excessive contractions of neck and jaw muscles.

If women lose consciousness and this is a regular occurrence, new partners should be informed, so they do not have panic reactions and start resuscitation.

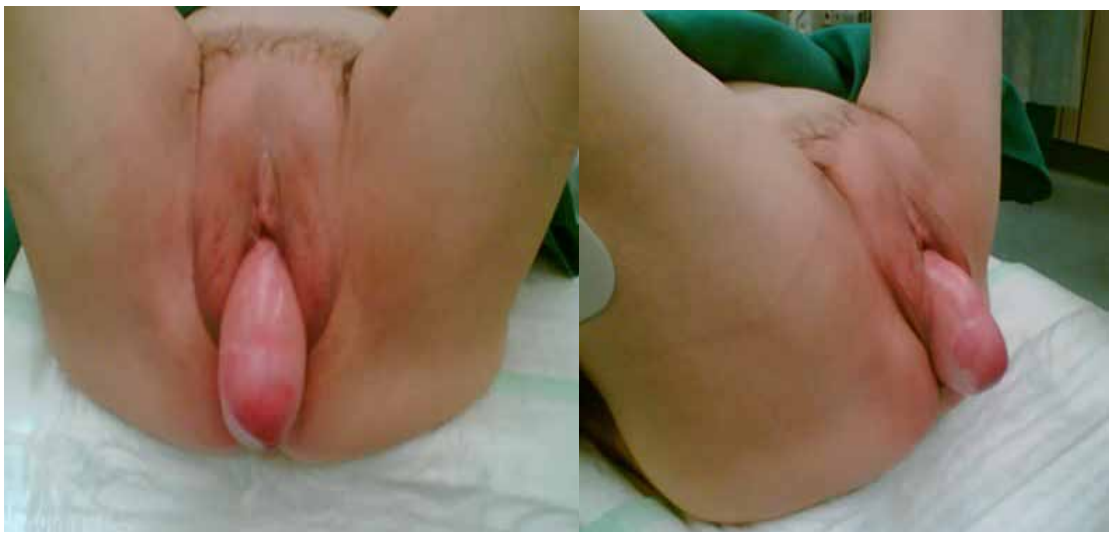

Fig.8 a,b Cystocele

Conflicts of interest:

The author has no conflicts of interest to declare. He also had full access to all study data and assume responsibility for the accuracy of the analysis of the data presented.

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