Hysteroscopic Vaginoscopy in the Diagnosis of Vaginal Bleeding

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A complete gynecological examination of young children and senile patients requires special considerations and techniques. Due to the intact hymenal ring or the very narrow, atrophic vagina, the routinely used instruments, specula, will not allow sufficient visualization. To establish exact diagnosis and apply adequate therapy, proper examination of the vagina is required. For this purpose Huffman–Huber or Cameron–Muller equipment is traditionally used (Fig. 1). A modified Foley catheter was used by Redman,[1] further improving the obtained picture, and the application of a balloon vaginoscope has been described by Terruhn.[2] In spite of all these developments, examinations frequently turn out to be difficult due to insufficient vaginal wall distension and bleeding. Based on our previous experience,[3] we describe a modified vaginoscopy, using hysteroscope and continuous liquid irrigation.

PATIENTS AND METHODS

Between 1990 and 1994, we have performed 25 hysteroscopic vaginoscopies at the Department of Obstetrics and Gynecology, University Medical School (Debrecen, Hungary). Most of these patients were referred to our department because no examination could be performed with traditionally used instruments. We report three cases in detail. On the basis of our initial experience we use a No. 26 Fr. Storz resectoscope. Distension is generally maintained by 1.5% glycin solution. Although simple gravity flow gives satisfying visualization of the vagina and the cervix in most cases (Fig. 2), recently we have used Endomat™ (Karl Storz, GmbH, Tuttlingen) for pressure-controlled distension. A 250-watt cold light source is used, and the picture is displayed on an endoscopic video monitor (Fig. 3). Documentation and reproduction is served by video cassettes. The most frequently used additional instrument is the monopolar electrode of the resectoscope, but other complementary tools (forceps) may also be used.

CASE REPORTS

Case 1

A two-year-old girl was referred to the department because of continuous vaginal bleeding. Genital area injury was caused by a broken thermometer. At the time of admission no injury to the external genital organs was noted, urine was free of blood, and results of the rectal examination were negative. Traditional vaginoscopy was carried out as a first step, but due to the bleeding it was unsuccessful. Then we visualized the vagina using a No. 26 Fr. Storz resectoscope and a 250-watt cold light source. Distension was maintained by 5% dextrose solution with simple gravity flow. Arterial bleeding was seen arising from the edge of a 2.5-cm transverse injury 1.5 cm from the fornix of the vagina. The artery was coagulated with the monopolar electrode of the resectoscope. The rest of the vagina and the cervix was without injury.

Case 2

A five-year-old girl was admitted to the department because of recurrent vaginitis and bloody, malodorous discharge, lasting for four weeks. While performing hysteroscopic vaginoscopy at the front third of the vagina, we found necrotic tissue suspicious for malignancy. Upon further visualization of the vagina, in the posterior fornix, a black foreign body (8 mm in diameter) was found. The foreign body was caught and removed with the loop of the resectoscope and proved to be a small battery from one of the girl's electronic games. The girl was discharged on the same day. Control vaginoscopy was performed one month later, and completely normal epithelium was found throughout the vagina.

Case 3

An 89-year-old patient was admitted to our department from a nursing home. She made mention of vaginal bleeding several times, although it was

Table 1. Possible causes of vaginal bleeding in children

- precocious puberty
- recurrent vaginal infections
- injury (accident, sexual abuse)
- foreign body
- genital tract tumor

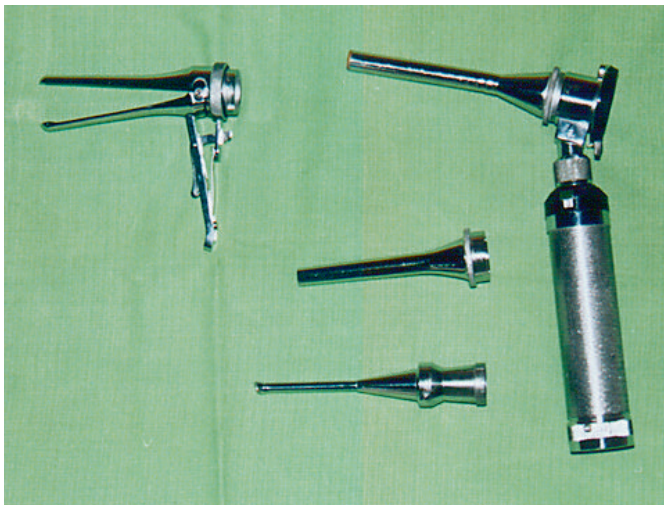

Figure 1. Traditional instrumentation.

Figure 2. The necessary distension for proper visualization.

Figure 3. Endoscopic equipment cart (background).

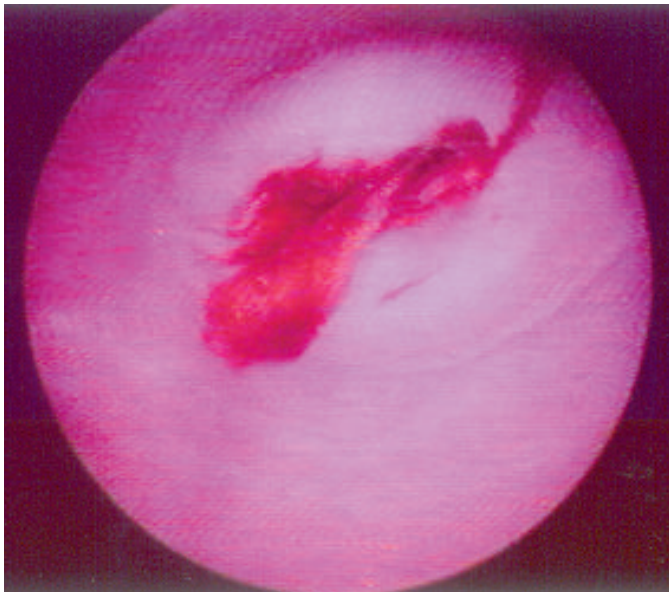

Figure 4. Normal cervix.

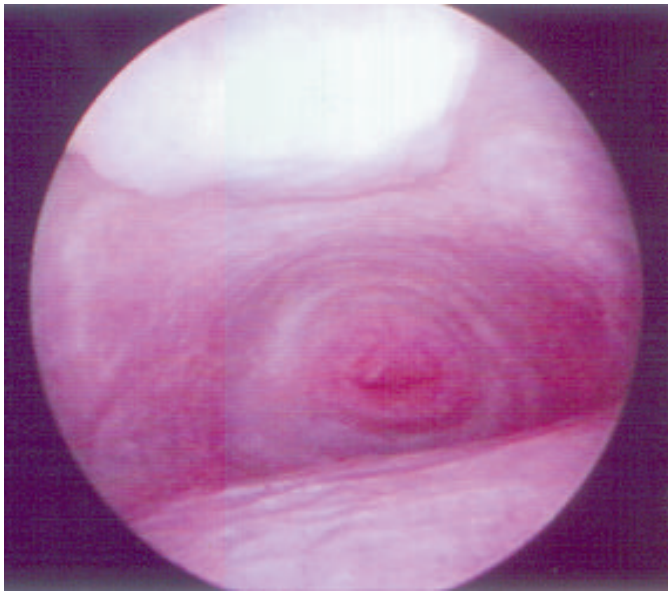

Figure 5. Abnormal cervix.

not confirmed by her nurses. Due to the atrophic, narrow vagina and introitus, vaginal examination could not be performed nor specula be inserted. Thin, atrophic endometrium was described on transabdominal ultrasound examination. To exclude cervical or vaginal origin of bleeding, hysteroscopic vaginoscopy was performed. During examination atrophic vaginal epithelium was seen with a normal cervix. The patient was discharged and has been without complaint for several months.

DISCUSSION

Minimally invasive practices are well accepted nowadays in obstetrics and gynecology. They have a heightened role in the pediatric age group. Vaginal bleeding is an alarming symptom that requires careful investigation. Possible underlying causes are shown in Table 1. Most frequently, bleeding is associated with precocious puberty.[4] Endocrine evaluation and exclusion of a hormone-producing tumor is mandatory in these cases. The results of vaginoscopy will be negative, with bleeding originating from the normal cervix (Fig. 4).

Vulvovaginitis in little girls is among the most common gynecologic disorders; it is frequently seen due to poor hygiene, the thin vaginal wall, and lack of estrogen. At the same time recurrent infection with bloody discharge may be the sign of a vaginal foreign body or genital tract tumors.

Foreign bodies can be easily identified and removed with the help of forceps or the monopolar loop.[5]

Among lower genital tract malignancies, sarcoma botryoides is the most frequent at this age group.[6] It may occur very early in life as an extrusion of tissue from the vagina. The tumor may originate from the vagina or the cervix. In recent years the management of sarcoma botryoides has undergone a marked change. In spite of the aggressive therapy of former years (sometimes exenteration with very poor results), recently combined chemotherapy followed by surgery has brought a marked improvement in the survival rate. Early diagnosis is essential for successful therapy. Hysteroscopic vaginoscopy demonstrates the starting point and extension of the disease; histology will be based on the biopsy specimen obtained with resectoscope.

Vaginal lacerations are mostly located around the posterior fourchette; nevertheless the most serious ones may involve higher parts of the vagina. In most of these cases monopolar coagulation is the easiest way to attain hemostasis.

Hysteroscopic vaginoscopy helps to establish correctly an early diagnosis and timely therapy in children with vaginal bleeding. The technique also proved to be valuable in urogenital tract malformations (diagnosing ectopic ureteral orifice, urethral diverticula, blind-ending vagina, etc.)[7] and other abnormalities (Fig. 5).

Indications for vaginoscopy may differ in elderly patients, where in some circumstances the anatomic situation requires special instruments to rule out vaginal and cervical pathology.

CONCLUSION

Optimal recognition of vaginal and cervical diseases in little girls and very old patients may be realized by applying the described techniques of hysteroscopic vaginoscopy. The resectoscope with continuous fluid irrigation provides excellent visualization of the introitus, vaginal wall, and cervix; biopsy, hemostasis, and foreign body removal may be performed using complementary instruments. STI

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