Peritoneal enterobiasis causing endometriosis-like symptoms

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Summary

Purpose: Enterobiasis is the most common parasitic disease of the temperate zones and infects the human intestinal tract. In rare cases extraintestinal infections with *Enterobius vermicularis* may occur and can affect the female genital tract and peritoneal cavity. In most cases the infection is asymptomatic, but there are also cases described in which peritoneal enterobiasis can cause abdominal pain. *Methods:* A case report and review of the pertinent literature. *Results:* A 32-year-old patient was admitted with cyclical lower abdominal pain. With suspected endometriosis a diagnostic autofluorescence laparoscopy (DAFE) was performed. At surgery extensive peritoneal deposits were seen. Macroscopically these deposits were not typical for endometriosis. The histological examination showed granuloma caused by *E. vermicularis* eggs. The patient was treated with mebendazole. After completion of treatment the patient was asymptomatic. At the second-look laparoscopy no more peritoneal changes were detected. *Conclusion:* Enterobius vermicularis may cause symptoms similar to endometriosis. In cases with reasonable suspicion it should therefore be considered in the differential diagnosis.

Key words: Enterobiasis; Endometriosis; Abdominal pain.

Introduction

Enterobiasis is the most common parasitic disease of the temperate zones infecting the human intestinal tract. Although rarely, extraintestinal infections with Enterobius vermicularis occur which can affect the female genital tract and peritoneal cavity. In most cases the infection is asymptomatic, but there have also been cases described in which peritoneal enterobiasis can cause abdominal pain. We present a case of patient who was admitted with cyclical lower abdominal pain. Endometriosis was suspected thus diagnostic autofluorescence laparoscopy (DAFE) was performed. At surgery extensive peritoneal deposits were seen. Macroscopically these deposits were not typical for endometriosis. After histological examination, the patient was found to have pinworms.

Case Report

A 32-year-old patient was admitted with worsening lower abdominal pain and dysmenorrhea. The symptoms had not improved under treatment with oral contraceptive pills. The patient had to take analgesics regularly. There were no bowel or urinary symptoms. The patient was free of any diseases and had no allergies. She worked as a maid in a hotel. The patient had not travelled in tropical regions. Physical examination revealed mild pain of the inner genital tract. During rectal examination there seemed to be little nodules on the peritoneum of the rectovaginal space. With suspected endometriosis a diagnostic autofluorescence laparoscopy (DAFE) was performed. At surgery extensive peritoneal deposits were seen in the Pouch of Douglas. Macroscopically these deposits were not typical for endometriosis (Figures 1 and 2). The suspicious areas were biopsied and the operation was uncomplicated.

Histological examination showed granuloma. In these granulomas a dense infiltration of eosinophilic cells around ovoid structures with eosin red walls were seen. These ovoid structures were the equivalent of *E. vermicularis* (Figure 3).

To rule out other infectious diseases and affection of other organs computed tomography of the chest and abdomen was performed. Neither scan showed any granulomas in the organs.

The patient and her family were treated with 100 mg of mebendazole a daily for three days. This treatment was repeated after four weeks. After completion of the treatment the patient was asymptomatic.

At second-look laparoscopy no more peritoneal changes were detected. There was no sign of any endometriosis-like lesions.

Discussion

Enterobiasis is the most common parasitic disease of the temperate zones and infects the human intestinal tract. In Poland a study revealed 35% of the families examined to be infected with pinworms [1]. *E. vermicularis* normally is found within the human gastrointestinal tract. The female worm migrates out of the host's anus at night to lay eggs. Sometimes the worm makes it way back into the female genitourinary tract. In these rare cases extraintestinal infections with *E. vermicularis* may occur and can affect the female genital tract and the peritoneal cavity as well as the urinary tract [2]. In most cases the infection is asymptomatic and many patients do not present with the common symptom of pruritus ani, which makes the diagnosis even more difficult. However there have also been cases described in which peritoneal enterobiasis can cause abdominal pain. Due to this, enterobiasis should reasonably be considered in the differential diagnoses of endometriosis [3].

Endometriosis as well as enterobiasis may appear in various entities. There are peritoneal or ovarian lesions, adenomyosis and/or deep infiltrating lesions among endometriosis patients. These different lesions may

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Fig. 1

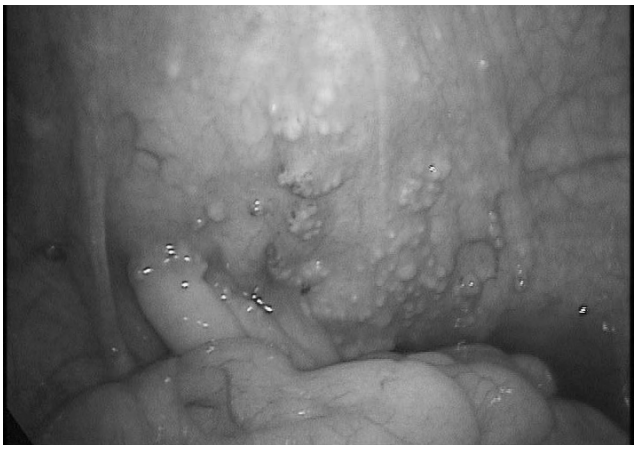

Fig. 2

Fig. 3

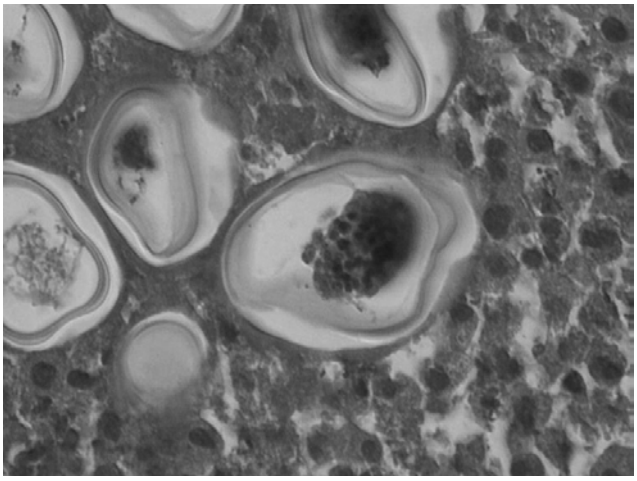

Figure 1-2. — Laparoscopic view of peritoneal deposits.

Figure 3. — Enterobiasis vermicularis eggs with surrounding eosinophilic reaction (H&) stained.

present differently and cause various symptoms according to their localization.

Superficial endometriosis lesions often spread to the peritoneum of the Douglas pouch and the uterosacral ligaments. Similar to that *E. vermicularis* may lead to generalized intraperitoneal lesions [4]. Endometriosis of the peritoneum can present with pelvic free fluid and lower abdominal pain. Tandan *et al*. described a case where lower abdominal pain and pelvic free fluid led to a laparoscopy. At the operation no signs of endometriosis but rather of chronic inflammation of the pelvic peritoneum were seen. Histological examination of the inflamed pelvic peritoneum showed pinworm eggs [5]. Cystic lesions of the ovaries can be caused by endometriosis as well as by ascending infections of the genital tract. Even tuboovarian abscesses may be caused by enterobiasis [6]. Besides the acute symptoms endometriosis causes problems among women such as infertility [7]. In these cases infection by *E. vermicularis* should be taken into account. There are cases where a pinworm infection of the genital tract led to tubal obstruction and infertility [8].

Even though endometriosis is a common cause of chronic pelvic pain in young women there are some differential diagnoses to be taken into account such as peritoneal enterobiasis.

Conclusion

As the diagnosis of endometriosis continues to be difficult *E. vermicularis* and other infections need to be taken into consideration. This calls for a precise anamnesis including life style and travel. Endometriosis may present with different kinds of symptoms and macroscopic appearances. Recent studies comparing electrocoagulation and sharp excision of superficial endometriosis show only a slightly better outcome in symptoms and relapse rate for electrocoagulation [9]. Nonetheless typical endometriosis should be biopsied to confirm the diagnosis. In cases where thermal destruction of the lesions is performed a wrong diagnosis may lead to false treatment and persistent symptoms of the patient. There might be a number of patients with diagnosed endometriosis not histologically confirmed, that suffer from pinworm infection as it is an ubiquitary infection. There is evidence that excision does reduce endometriosis-related pain [10]. We believe that histological evidence is needed to consistently find the right diagnosis and treatment.

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