

Extraintestinal oxyuriasis – report of three cases and review of literature

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SUMMARY

Extraintestinal oxyuriasis, in our experience with three affected women of fertile age, presented itself as a solitary fibrotic nodular lesion, with a varying location. The sites of location were: parietal peritoneum, serous surface of the uterus and wall of the uterine tube. The size of the nodules was 5 to 10 mm. Histologically, the lesions were hypocellular fibrotic nodules with a variable amount of neutrophils and amorphous eosinophilic material in the center, harbouring eggs of the parasite and remnants of pinworm cuticle. All three lesions were asymptomatic, only being discovered incidentally during the operations for unrelated conditions. Their peroperative recovery by a surgeon did not alter the course of surgery. These findings document the ability of pinworms to migrate into the abdominal cavity via the female genital tract.

Keywords: oxyuriasis – enterobiasis – pinworm – extraintestinal – abdominal – *Enterobius vermicularis*

Extraintestinálna oxyuriáza – popis troch prípadov a prehľad literatúry.

SÚHRN

V našom pozorovaní sa extraintestinálna oxyuriáza prezentovala u troch žien vo fertilnom veku ako solitárny fibrotický uzlík parietálneho peritonea, serózy maternice a v stene vajcovodu. Veľkosť uzlíkov bola 5 až 10 mm. Histologicky išlo o hypocelulárny fibrotický uzlík v centre s vajčkami parazita, s variabilným množstvom hnisu, jedenkrát i so zbytkami kutikuly tela parazita. Klinicky išlo vždy o náhodné vedľajšie nálezy pri operáciách z inej indikácie, bez ovplyvnenia operačného postupu. Tieto nálezy potvrdzujú schopnosť samičiek parazita ascendentne migrovať ženským genitálnym traktom až do brušnej dutiny.

Kľúčové slová: oxyuriáza – enterobiáza – extraintestinálny – abdominálny – *Enterobius vermicularis*

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Enterobius vermicularis (earlier *Oxyuris vermicularis*, synonyms: pinworm, threadworm) is an intestinal parasitic nematode. It is probably the most common helminthic infection in humans. It normally resides in the terminal ileum, appendix and colon. Fertilized female pinworms descend into the rectum and lay their eggs in the anal folds and surrounding areas including clothing and bed linen. The infection is then transmitted orally by the means of contaminated hands to the mouth. The eggs mature in the small intestine and larvae are born. Male worms die after mating with the females. Fertilized female pinworms descend as described earlier and lay eggs once again, continuing the cycle. Possibly due to some navigation error, they may enter the genital tract of women via the vagina. From there they are able to migrate further into the uterus, fallopian tubes and the peritoneal cavity. That is how extraintestinal oxyuriasis may come into being.

The presence of a pinworm or its eggs in the abdominal cavity is asymptomatic in most of the cases. In the largest study conducted, involving 259 cases of oxyuriasis, extraintestinal infection was only identified in 11 patients, which would be 4.2 % (1). All discovered cases were incidental findings during autopsy or

surgery. In the surgical cases, surgeons were not able to differentiate such lesions from peritoneal carcinomatosis, tuberculosis or schistosomiasis. The diagnosis of extraintestinal oxyuriasis came as a surprise.

The symptoms of intestinal oxyuriasis are non-specific. They include pain in hypogastrium, fever, nausea and vomiting. Genital oxyuriasis may cause dyspareunia and bloody vaginal discharge. It presents itself as an inflammatory or granulomatous lesion of the female genital tract or parietal peritoneum situated in the vicinity of the uterus, ovary or fallopian tube. Histopathologically oxyuriasis presents itself as a fibrotic nodule or chronic abscess with a thick fibrotic wall. Dystrophic and sometimes calcified eggs of the parasite can be found in the center of the lesion (Fig. 2, 3). The female pinworm cuticle is usually poorly preserved due to the lytic activity of the neutrophilic leucocytes. Only the small undulated fragments of cuticle can be observed (Fig. 3, 4).

CASE REPORTS

Extraintestinal oxyuriasis was observed by the authors (L.N., B.S.) in three fertile women in the mixed setting of the pathology department of a regional hospital and private pathology laboratory. The specimens were recovered over a period of 21 years. The infection presented itself as a fibrotic nodule. It was localized in the parietal peritoneum, serosal surface of the uterus (macroscopically reminiscent of subserosal leiomyoma) and in the wall of the fallopian tube (Tab. 1). In all instances, a solitary nodule measuring from 5 to 10 mm was incidentally recovered during the course of surgery for other non-related causes.

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