

Anal ultrasound in patient with leukoplakia of the anal canal. Case report

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Background. Leukoplakia is considered to increase the risk of development of anal carcinoma. We present a case of leukoplakia which underwent a malignant transformation and usefulness of the anal endosonography (AES) in the assessment of the degree of infiltration of the anal canal.

Case report. AES was performed with the use of Bruel & Kjaer scanner type 3535 with an axial 10.0 MHz endoprobe. Examination was performed in decubitus position. Anal ultrasound allowed the exact assessment of the depth of infiltration of the anal wall by the tumour. Assessment of the perianal lymph nodes was also possible.

Conclusions. AES became a routine examination in staging anal tumours. In patients with leukoplakia AES proved valuable in assessing the depth of invasion and deciding on the choice of treatment and prognosis.

Key words: anal neoplasms -ultrasonography; leukoplakia

Introduction

Leukoplakia is found as white, circumferential and flat-prominent lesions, located mainly within the epithelium covering prolapsed haemorrhoids, or associated with non-specific skin inflammation in this area. In general, it is not considered as premalignant lesion and does not require treatment.

However, occasionally, within the area of leukoplakia in the distal part of the anal canal, microscopic examination reveals signs of dysplasia which, in time may undergo malignant transformation. In such situations local surgical resection of the foci following histopathologic confirmation of the dysplasia, is recommended.¹

We present a case of a woman, whose long

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time lesion in the anal canal representing leukoplakia underwent a malignant transformation into the carcinoma planoeptiheliale of the anus. Anal endosonography (AES) was performed to assess the stage of the disease.

Case report

A 56 year-old woman (surgeon) was admitted to proctologic outpatient clinic for further diagnostics of a lesion typical for leukoplakia localised within the skin surrounding the anus and in distal part of the anal canal. The lesion was diagnosed six years earlier. During these six years, the patient was under dermatological control. Her main complaints were sporadic pruritus and burning sensation in the anal area. No other symptoms, neither anal bleeding, were reported. She was treated with local anti-inflammatory drugs.

After six years, due to the exacerbation of the disease (burning, pruritus) and slight enlargement of the area of leukoplakia, the patient was sent to proctologist for consultation. In the proctologic examination, a slight decoloration of the anoderm and mucous in the anal canal was visible. Around the anus, flat, callous, and non-mobile infiltrate was palpated, extending up to 1 cm of the anal canal height. In anoscopy, the overgrown, white mucosa with irregular surface was visible. Specimens from the anal canal were taken in local anaesthesia. Histopathologic examination revealed carcinoma planoeptiheliale akeratodes ani partim exulcerans.

Before deciding on the treatment method, AES was performed to determine the depth of infiltration the tumour into the anal canal. For anal ultrasonography, Bruel & Kjaer scanner, type 3535, with axial endoprobe of a frequency 10.0 MHz covered by a plastic cone with external diameter of 17 mm was used. The cone was filled with a few millilitres of degassed water. The cone covered with a condom was introduced into the anal canal up to

the depth of 5 cm. The patient was in decubitus position. High and mid anal levels were normal. In the low anal level a tumour located on the posterior and left walls of the anal canal and infiltrating into the subcutaneous part of the external anal sphincter was visualised. Half of the sphincter thickness was infiltrated. Invasion into the distal end of the internal anal sphincter was also seen (Figures 1a, 1b). The tumour's echotexture was homogenous, hypoechoic. No enlargement of the lymph nodes were visible in the perianal tissues and the surrounding structures were not invaded. According to the sonographic classification (uTN), the stage of the disease was defined as uT2N0. The patient was sent for oncologic consultation where it was decided that she was eligible for radiochemotherapy.

Discussion

Among risk factors of anal carcinoma there are many inflammations transmitted by sexual route, Bowen and Paget disease, Crohn's

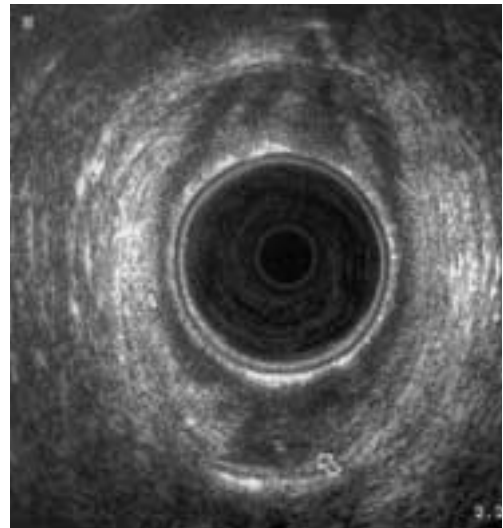


Figure 1a. Finger-like infiltration of the subcutaneous part of the external anal sphincter (arrows).

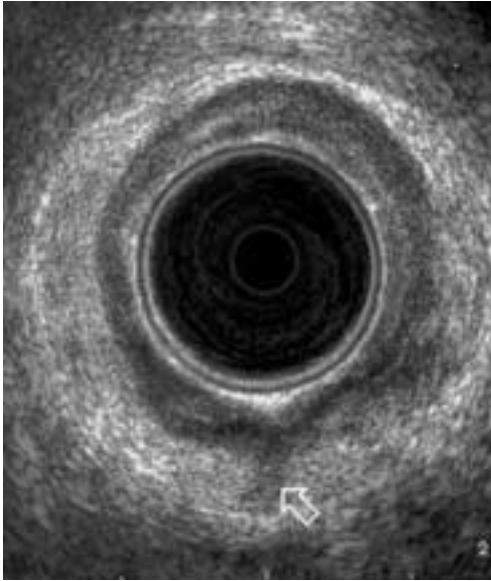


Figure 1b. Infiltration of the distal end of the internal anal sphincter (arrow).

disease, ulcerative colitis, postradiation inflammation, chronic inflammations or leukoplakia.¹ Term »leukoplakia« was coined in XIX century.² Taussig³ claimed that in half of patients with leukoplakia of the vulva, there is a risk of malignancy. In 70% of cases of planocellular carcinomas of the vulva, he found leukoplakia in the area surrounding cancer. Other authors, e.g. Janovski,⁴ also considered the lesions representing leukoplakia as precancerous state. However, other opinions regarding leukoplakia as a precancerous state were different.⁵ Most of researchers consider leukoplakia as non-precancerous state and with the increasing risk of anal carcinoma.

If microscopic examination finds dysplasia, which with time may undergo malignant transformation, local excision of the foci of dysplasia is advocated.¹ In the cases which have already undergone transformation, local excision of the lesion is performed. In the presented case, the woman had been under observation for six years. Within that period of

time, microscopic examinations were not performed. Notably, however, a few years ago, the changes representing dysplasia might have been diagnosed and would have been suitable for local excision. The treatment and prognosis of leukoplakia which has undergone malignant transformation differs from that for a typical, benign leukoplakia. It depends on the stage of disease. In cases of carcinoma planoepitheliale in stage 0 (ca in situ) or in stage I, it may be limited to local excision, whereas in stage II, a combination of chemoradiotherapy is used.¹ In the presented case, AES enabled an exact assessment of the depth of infiltration and proper decision that the patient is eligible for an oncological treatment.

Staging of anal canal carcinomas is important in planning treatment strategies.⁶⁻⁸ The TNM classification system currently used is based on the result of a digital rectal examination where only margins of the tumour around anal circumference and its proximal and distal ends are assessed without the evaluation of its mobility and the depth of penetration of the tumour into canal wall. Perianal lymph nodes can not be assessed either. Anal tumour diagnostics allows a precise evaluation of their local advancement with the use of AES because a layered structure of the anal canal is visible on AES.⁹⁻¹³ Anal carcinomas are staged according to the TNM classification uTN, where »u« means that ultrasonography was used to determine the staging. In:

- 1) uT1 tumour is limited to submucosa and mucosa
- 2) uT2 is limited to sphincters
- 3) u T3 infiltrates perirectal tissues
- 4) u T4 invades surrounding structures.

N0 and N1 mean lack or metastatic regional lymph nodes.

Anal carcinoma in AES appears as hypoechoic mass, with irregular outlines. the depth of invasion by tumours and their relation to surrounding structures is easily seen in AES. In the discussed case, AES showed partial in-

filtration of the anal sphincters, which stayed within the external outlines of the sphincters, and reached only the mid anal level. Enlarged lymph nodes were not detected. These two findings,; limited penetration and lack of enlarged lymph nodes in perianal area led to the prognosis of the survival time. However, one of the most important markers of the prognosis is the state of inguinal lymph nodes. Thereby, it is essential to complete AES with the assessment of these lymph nodes using linear probe. Such approach enables a better prognosis of patient's life. When it concerns the diagnostics of malignant diseases of the anal canal, AES is very often used as a routine examination. Postoperatively, follow-up examinations may allow for an early diagnosis of local recurrence in perianal tissues before they are evident on a clinical examination. An US guided fine needle aspiration biopsy of an abnormal lesion may also be possible.¹⁴

Leukoplakia is a benign anal disease and extremely rarely undergoes a malignant transformation. The presented case however indicates that, in cases of any abnormal lesion in anus/anal canal periodic, regular check-ups should be carried out. Apart from digital rectal examination and histopathologic evaluation of specimen, AES is the most suitable method for monitoring, not only because it enables assessment of the stage of disease which has direct influence on treatment strategy, but also because of its simplicity, low-cost, availability and non-invasiveness.

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