

# The significance of detailed examination of hemorrhoids during pregnancy

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## Summary

In the population of pregnant women in Serbia and Montenegro, hemorrhoids are present in 85% of the cases during the second and third pregnancy. Urged by the complications of non-treated hemorrhoids, we carried out a routine diagnostic procedure to examine hemorrhoids during pregnancy, i.e. a differential diagnosis with other possible complications was performed. Fifty patients, aged between 36 and 38, were examined by anoscope and rectoscope during the second trimester. Rectal carcinoma was found in three cases, which is a disturbing number. The patient with the most serious clinical picture was subjected to urgent artificial fetal lung maturation and surgical delivery. One of the patients had clinical cachexia, and in view of the fact that the magnetic resonance imaging during pregnancy showed infiltration and that the patient was 38 years old, with the patient's consent, surgery was performed together with hysterectomy and salpingo-oophorectomy and immediate removal of the rectum and anus. In the other two cases, the delivery ended vaginally between the 35th and 38th week of gestation, after which the patients were moved to the surgery ward. Besides a positive family history for digestive tract carcinoma (95%), smoking and increased body mass index, there were no significant parameters distinguishing these three patients from others with hemorrhoids. Interesting data were obtained from the fact that there was no increase in body mass during pregnancy which patients correlated with their already present obesity. Moreover, pain was correlated with the fact that the patients did not follow a healthy dietary regime. In all 50 patients, the following procedures were performed: anoscope, rectoscope and digestive tract tumor markers. Observing the results of the biopsies, we found rectal carcinoma Stage C according to Dukes staging (tumor included serosa) in one case. In the other two cases, Stage B1 carcinomas were found (which included all layers except serosa). Magnetic resonance imaging was performed and confirmed progression of the disease. The delivery ended *per vias naturalis* in two cases in view of the fact that it was the third pregnancy for both patients. Surgery was performed 40 days after delivery. Postoperative recovery was unremarkable in all described cases.

**Key words:** Hemorrhoids; Rectal carcinoma; Pregnancy.

## Introduction

The population of women in Serbia and Montenegro is predisposed to an increased body mass index and there is a tendency for inappropriate nutrition. Almost a half of pregnant patients have hemorrhoids. The incidence of hemorrhoids, until the clinical manifestation of bleeding, is more or less acceptable for gynecologists. Only in cases of extreme constipation, severe pain or bleeding, do the hemorrhoids themselves provoke further therapeutic procedures [1, 5].

Localization of hemorrhoids can be internal and external. The incidence is higher among populations with an increased body mass index. Internal hemorrhoids are located beneath the mucous membrane and above the saw-tooth (pectinate) line. They are covered by transitional and columnar epithelium. They can be divided into four stages: First-degree hemorrhoids are characterized by difficulties and bleeding but they do not cross the pectinate line. Second-degree hemorrhoids protrude during defecation but return spontaneously because they have not lost their elasticity yet. Third-degree hemorrhoids protrude outside the anus after defecation and need to be reverted by pressure. Fourth-degree hemorrhoids protrude outside the anus constantly, and repositioning is impossible. Compromised circulation, because of anal

sphincter spasms, may cause strangulation, edema, thrombosis and gangrene of the prolapsed internal hemorrhoids. External hemorrhoids present varicose spread of hemorrhoids. Apart from dull pain and bleeding, other symptoms related to internal hemorrhoids are moisture, increased secretion of mucus and perianal irritation. It is necessary to exclude carcinoma, polyps, fissures and inflammation by diagnostic differentiation. First-degree and second-degree hemorrhoids are treated by sclerotherapeutic preparations and submucosal phenol (5%), and also strangulation, i.e. the application of a rubber ligature. The hemorrhoids necessitate operative excision [2, 6, 7].

In the pregnant population, it is particularly difficult to establish the diagnosis considering differentially the possible incidence of carcinoma and polyps. Although rectal carcinoma is often present among the older population, its unknown etiology and increase of malignant disease in our country induces further examination. Colorectal carcinoma is predominantly adenocarcinoma with its origin in the mucous glandular epithelium. It has relatively slow progression, but there is evidence of expansion of all potentially malignant tumors during pregnancy. Histologically, the tumor may be well, moderately, or poorly differentiated. The degree of differentiation determines the course and severity of the disease and significantly influences the prognosis. The stage of disease at the time of diagnosis, lymphogenous and hematogenous invasion, and oncological radicalism of the surgery are important.

for the outcome. Morphologically, tumors can be annular (ring), polypoid (vegetative), infiltrative (platy tumors), or ulcerous (shallow with rough edges).

The symptoms of rectal carcinoma overlap with symptoms of hemorrhoids, i.e. there is mucus secretion, bleeding, painful defecation and tenesmus [3, 4].

The diagnosis requires endoscope and radiology examinations. Manual examination is still the primary one in clinical practice. Then, rectoscopy examination is carried out. CEA (carcinoembryonic antigen) analysis is not specific enough (normal value less than 5 g/l in the serum). The diagnosis also requires complete rectosigmoidoscopy but it is impossible during pregnancy [2, 7].

The therapy of tumors in the lower third of the rectum (less than 8 cm away from the anus) and in the anal canal is amputation of the rectum in two phases. The lower mesenteric artery is highly tied by an abdominal approach and the rectum with the tumor is mobilized next to the muscular pelvic floor. Then, in the second phase of the surgery, the muscular apparatus of the rectum together with the tumor is excised by a perineal approach. The surgery is called abdominal amputation of the rectum according to Miles [4]. Peristaltic continuity is established by endo-anal anastomosis of the lower colon and anal part of the colon. It is used in malignant tumors without muscular layer infiltration. In rectum amputation, vaginal back wall resection is also performed in order to provide oncological radicalism of the surgery in relation to the communication of the rectal and vaginal lymph networks.

In the therapy of rectal carcinoma, radiotherapy has priority over therapy with systemic cytotoxic drugs.

## Materials and Methods

We analyzed 50 cases of distinct hemorrhoids in older pregnant women with multiple births by manual examination of the rectum, rectoscopy and marker analysis. In suspected conditions, we performed magnetic resonance imaging at the beginning of the third trimester. Also, biopsies of suspected regions were performed. The methods were analyzed by the t-test and Fisher analysis. The patients were treated not only diagnostically but also completely surgically and gynecologically.

## Results

In 50 patients, aged between 36 and 38, anoscope and rectoscopy were performed in the second trimester of the pregnancy. Also, markers of the digestive tract were obtained in all examinees. Manual examination was not sufficiently reliable for the differential diagnosis, but hemorrhoid thrombosis, as a possible cause of the pain, was eliminated. In all suspected conditions, biopsies were performed by rectoscopy and anoscope. Of eight biopsies three positive findings were found which were confirmed postoperatively, and in one case rectal carcinoma Stage C according to Dukes staging was found (tumor included serosa). In another two cases, Stage B of the disease was found (tumor included all layers except the serosa). Magnetic resonance imaging was performed and confirmed progression of the disease in the first case.

The deliveries ended *per vias naturalis* in two cases, considering the fact that it was the third pregnancy for

both of the patients. Postoperative recovery was regular in all the cases.

These three cases are disturbing compared to the number of examinees. The patient with the most serious clinical picture, an older woman in the 34<sup>th</sup>-35<sup>th</sup> week of gestation with her third child, was subjected to artificial fetal lung maturation by corticosteroids and delivery ended operatively with the patient's consent and agreement of her family. After operative delivery and the birth of a female baby with a body weight 1,850 g (without respiratory distress syndrome), the surgery was spread to include hysterectomy with salpingo-oophorectomy and immediate removal of the rectum and anus. We decided on radical surgery to shorten the puerperium and the risks of a possible fall in immunity of the mother. In the other two cases delivery ended vaginally between the 35<sup>th</sup> and 38<sup>th</sup> week of gestation, after which they were moved to the surgical ward. Besides a positive family history for digestive tract carcinoma (95%), smoking and increased body mass index, there were no significant parameters that would differentiate these three cases from the other women with hemorrhoids. Of interest is that there were no body mass increases during pregnancy, what patients related to their already existing obesity. Also, the pain was related to a poor dietary regime. The secretion of mucus and tenesmus were present even before the pregnancy, but did not manifest until the second trimester. All patients were closely monitored for six months after the procedure, and are stable now without diagnosed recurrences.

## Conclusion

The significance of proper diagnosis of hemorrhoids is very important and so is carrying out complete examinations. In all conditions with familial or personal risks (obesity, smoking, clinical picture) it is necessary to conduct a manual examination, rectoscopy and biopsy, and magnetic resonance imaging if necessary. Also, properly obtained analyses and time devoted to the patient make up more than half of the diagnosis.

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