Krukenberg tumors of the ovary Rectal origin

Les tumeurs de Krukenberg de l'ovaire d'origine rectale

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ABSTRACT

Krukenberg tumors (TK) define themselves as ovarian metastases from cancer more often digestive. These are rare tumors which represent 1 to 2% of ovarian tumors. They are characterized by the presence of "kitten ring" cells filled with mucus and a pseudo-sarcomatous proliferation of the ovarian stroma. Their evolution is quickly fatal. We report 1 case of Krukenberg tumor observed and operated on in June 2020 at the surgery Department B CHU Constantine. The symptoms began with a rectal syndrome with transient episodes of pelvic pain. In this regard, we will recall the epidemiological, clinical and evolutionary characteristics of this disease.

Keywords: Krukenberg tumor, rectal cancer, ovarian metastases, synchronous tumors, posterior pelvectomy.

RÉSUMÉ

Les tumeurs de Krukenberg (TK) se définissent comme des métastases ovariennes issues d'un cancer le plus souvent digestif. Ce sont des tumeurs rares qui représentent 1 à 2% des tumeurs ovariennes. Ils se caractérisent par la présence de cellules en «bague à chaton» remplies de mucus et une prolifération pseudo-sarcomateuse du stroma ovarien. Leur évolution est fatale. Nous rapportons le cas d'une malade opérée en juin 2020 au service de chirurgie générale B du CHU Constantine. Nous rappellerons les caractéristiques épidémiologiques, cliniques et évolutives.

Mots clés : Tumeur de Krukenberg, cancer rectal, métastases ovariennes, tumeurs synchrones, pelvectomie postérieure.

INTRODUCTION

Krukenberg tumor is a metastatic malignancy of the ovary characterized by mucin-rich signet-ring adenocarcinoma that primarily arises from a gastrointestinal site in most cases and less commonly from other sites, usually solid and mostly detected bilaterally.

The time from diagnosis of the primary neoplasm to the development of ovarian metastasis is variable and can range from several months to more than 10 years.

OBSERVATION

Mrs. B.A 37 years old, with a medical history of hypertension under treatment, consulted on an outpatient basis for an alternation of diarrhea / constipation progressing over 3 months with episodes of low-abundance rectal bleeding and repeated pelvic pain.

The examination found a patient in fair general condition, supple abdomen, TR: finger cot stained with blood, a palpable polyp. A recto-sigmoidoscopy was requested, coming back in favor of an ulcerative and obstruction tumor process of the extended lower rectum through the rectum suspected of malignancy, then the biopsies revealed an infiltrating rectal adenocarcinoma with independent cells. A requested MRI showed the tumor process of the middle and lower rectum respecting the anorectal junction with invasion of the

perirectal fat opposite (20 mm thickness extended over a height of 62mm, located 40 mm from the anorectal junction and 70 mm from the anal margin), presence of perirectal and left internal iliac lymphadenopathy and also the presence of a left ovarian cyst benign.

Three days later, the patient presented to the emergency room for abdominal pain with cessation of materials and gas for 24 hours, general condition altered, TR: empty rectal bulb (clean finger cot), ASP: multiple hydro aero levels, she was started in emergency in the operating room where she had a discharge colostomy.

After recovery, the patient began an extension assessment that TAP CT is showed stabilization of the tumor thickening of the wall of the rectum and of the perirectal, bilateral internal and external iliac and lumbar aortic lymphadenopathy, and the presence of a bilateral benign ovarian cyst.

The patient then received radio chemotherapy at a dose of 45 Gray, the last session of which was 9 weeks before the operation. A post RCC MRI made objectifying the known tumor process of the upper and middle rectum measuring 13 mm thick and 47 mm high (downsizing), located 40mm from the anorectal junction and 85 mm from the anal margin, a bulky right ovarian abdominopelvic multilocular cystic mass measuring 230 * 135 over a height of 222 mm, probably a secondary

location, and ascites of great abundance with probable peritoneal carcinoma.

The patient was taken to the operating room. Surgical exploration showed a large Right ovarian tumor occupying the entire pelvis and reaching the supra-mesocolic level without invasion of neighboring organs, tissue-like. The contralateral ovary was the seat of a less large tumor having

the same appearance. Presence of peritoneal carcinoma nodules and absence of hepatic metastases.

A posterior pelvicotomy (hysterectomy, bilateral adnexectomy and proctectomy) was performed (figure 1).

Pathological examination of the operative specimens with an immunochemical study concluded to: Krukenberg tumors of the ovary rectal origin (adenocarcinoma).

Figure 1. Tumeur Krukenberg à gauche + utérus et ovaire au milieu + rectum à droite

DISCUSSION

Krukenberg syndrome is defined by unilateral or bilateral ovarian metastases from glandular epithelioma, characterized by the presence of mucosecreting "kitten ring" cells at the ovarian level. Described for the first time in 1895 by the German Friedrich Krukenberg, this condition presented the characteristics of a primary fibrosarcoma (1, 2). But in 1901, KRAUSE demonstrated the epithelial and metastatic nature of the process, and from 1960 to the present day, studies aim to shed light on the endocrine and physico-chemical mechanisms of these mysterious tumors, to diagnose them as early as possible in order to be able to initiate adequate and effective treatment (1). Epidemiologically, TK is rare: 1% of ovarian tumors in general and 5% of ovarian metastases. The usual age of onset is variable, but is observed mainly in women in childbirth, between 30 and 40 years old (1, 3, 4, 5, 6) which is close to our sample. TK is an ovarian metastasis of a mucosecreting digestive cancer in 90% of cases; this can be gastric (70%) or colic (14%) or pancreatic and biliary (60%), or even appendicular (1 - 2.5%) (1, 2, 5, 7, 8, 9, 10) or recto sigmoid (rare) as in the case of our patient, an extra - digestive point of departure (breast, thyroid, bladder, uterus) is also rare; cases of primary TK have been described (5, 2, 9, 11) and we only speak of primary TK after 5 years of progression without

recurrence. The pathogenesis of TK and the modes of spread are controversial. For some authors this propagation is done:

- By contiguity for recto-sigmoid tumors.
- Through the blood in cases of very rapid generalization (multiple metastases).
- Retrograde lymphatic route, which is the most popular because of the almost constant damage to the lymphatic relays between the digestive tract and the ovaries (1, 6).
- via the trans peritoneal route via the serosa from which the tumor cells contained in the peritoneal cavity escape and which are grafted to the level of the ovary devoid of serosa and often ulcerated on the surface during ovulation (3, 6) thus explaining the peritoneal metastases preceding ovarian involvement (6).

Ovariotropism involves possible hormotaxis, chemotaxis or immunotactism, thus supported by:

- The alkalinity of the pH of the ovarian tissue (4, 9, 12)
- Low surface tension (4, 13)
- Hyperestrogenia associated with these tumors,
- Hyperandrogenism during pregnancy.

From an anatomo-pathological point of view, TK is bilateral in 50 (1, 4, 5) to 80% of cases (3, 13).

The isolated right ovarian localization is estimated between 9 (1) and 28% (14). As for the isolated left involvement, it varies between 40 (1) and 50% of cases (14, 5) in the literature. They are medium-sized tumors, generally keeping the shape of the ovary, smooth, whitish, firm, without adenoids or loco regional adhesions. These different characteristics give it a falsely benign appearance.

Most often purplish areas testify to necrotic-hemorrhagic changes. On section, a mucoid secretion escapes and polymorphic areas appear.

Microscopically, TK is characterized by the presence of "kitten ring" epitheliomatous cells with an eccentric nucleus filled with Muci - carminophilic mucus, isolated or grouped in clusters within fibrils and by a pseudo-sarcomatous proliferation of the stroma. Clinically, the warning signs of TK are poor. The tumor is most often discovered by chance during an assessment of the extension of a primary cancer, most often digestive (1, 2) or during surgery (5, 9, 11).

The chronology of the onset of TK from primary cancer is variable (synchronic or metachron) (3, 15). In our case, it is synchronous.

After the observation of the occurrence of ovarian metastases in colorectal cancers, especially in young women in bilateral form, and synchronous, as in our observation, Rodier analyzed the place of prophylactic bilateral oophorectomy and recommended it in the same operative time as the excision of the digestive tumor (16). The therapeutic attitude therefore differs depending on the initial symptomatology.

In cases where the ovarian tumor is in the foreground requiring surgical treatment, the histological examination will confirm the diagnosis which will be followed by looking for an associated digestive tumor and wherever possible by its surgical treatment.

When the digestive tumor is the first diagnosed it involves surgical excision of the malignant digestive process which must be accompanied by a systematic exploration of the ovaries, the attitude is debated, some authors propose the principle of annexectomy when the serosa is exceeded. This is logical in postmenopausal women but difficult to decide during a period of ovarian activity when the risk appears to be higher (17).

The complementary treatment remains to be defined, some authors propose the combination of Adriamycin, Fluoro-Uracil (5 FU) and Cisplatin (17). Some authors have proposed immunotherapy. The specificity of hormone therapy has yet to be established while radiotherapy is totally ineffective, as shown by all the studies currently published (17, 18).

The development of ovarian metastases considerably darkens the prognosis of digestive cancers and colorectal cancers in particular; although most authors do not report prolonged survival, Webb observes survival rates reaching 15% after menopause and 9% before (all digestive origins combined) (19). The median survival, however, does not exceed 18 months. For Burt, the mean survival after oophorectomy is close to 10.9 months, and 80% of deaths occur between 6.5 and 44 months (20).

Some prognostic factors have been defined, namely ascites, young age, pregnancy, first pelvic symptomatology (21). Pregnancy is generally responsible for a diagnostic delay; ascites and pelvic symptoms show a significant development.

The only hope lies in the adoption of preventive measures which consist of:

- A complete gynecological examination in any woman with digestive cancer, as well as liver, lymph node and peritoneal metastases (1).
- A meticulous search for any functional digestive sign accompanying an ovarian tumor with the practice of digestive endoscopy and biopsies if there is any doubt.
- Systematic exploration of the ovaries during excision of a digestive tumor in women (1, 5) or even bilateral adnexectomy.
- Manual digestive exploration during surgery of an ovarian tumor.

CONCLUSION

Krukenberg tumor is a rare disease which metastasizes in the ovaries from gastrointestinal adenocarcinoma and is usually synonymous with advanced disease. The diagnosis is facilitated by the echo tomography performed as part of the assessment of the extension of a cancer of digestive or extra-digestive localization. The prognosis remains bleak until today, hampered by the subsequent occurrence of loco regional recurrences and / or the appearance of secondary locations which are still possible.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

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