Tonsillar metastasis revealing signet-ring cell carcinoma of the rectum
A case report

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SUMMARY
A 45-year-old man presented with a tonsillar tumor and rectal syndrome. Histology specimens revealed signet-cell adenocarcinoma of both the tonsils and rectum. The clinical course was rapidly degenerated with multiple metastases in the skin and bones. Tonsil metastasis is rare and generally develops from primary gastric or colorectal cancer, predominantly poorly-differentiated or signet-ring cell adenocarcinomas.

Case report
A 45-year-old man with an uneventful personal and family history presented with cervical lymph nodes and had difficulty in swallowing. He also complained of false urge to defecate and bloody stools. Physical examination revealed an ulcerated tumor located on the left tonsil (figure 1), and several enlarged fixed cervical nodes. The patient’s weight remained stable despite anorexia. At digital examination, the rectum was fixed with abnormal consistency. Biological tests were normal. Colonoscopy revealed a circular ulcerated tumor located on the left tonsil (figure 1), and several enlarged fixed cervical nodes. The tonsil metastasis was poorly-differentiated adenocarcinoma with a large component (> 50%) of signet-ring cells. The immunohistochemistry of the tumor cells harbored vacuoles containing PAS- and alcian blue-positive mucus distinctive of signet-ring cells (figure 2). At immunohistochemistry, the cells were negative for synaptophysin, CD56, and anti-PSA and anti-TTF1 antibodies. They were also negative for cytokeratin (CK) 7, but rare cells expressed CK20 (figure 3). The final pathological diagnosis, for both the tonsillar and rectal specimens (figure 4).

Discussion
Metastases in the palatine tonsils are rare and generally occur in cancers prone to metastasize: melanoma [1], lung cancer [2] and renal cancer [3]. It is noteworthy that among the few hundreds cases reported in the literature, about a dozen concerned gastric cancer and only four colorectal cancer. These cancers generally metastasize less readily to the liver, lungs or bone, usually via hematogenous dissemination. Metastasis of colorectal cancer to other localizations is exceptional and usually occurs late in a context of highly disseminated disease. This context was not present in the four cases reported in the literature. In these cases, tonsillar metastasis was either the first metastatic localization or the inaugural manifestation of colorectal cancer. Most of the reported cases involved a very specific type of histology: poorly-differentiated [4] or undifferentiated cancer [5-7], or as in our case, signet-ring cell adenocarcinoma [8, 9]. Signet-ring cell adenocarcinoma is an uncommon histological type of colorectal cancer, observed in about 1% of the cases [10], but has a rather distinctive presentation. Besides the specific histological features, signet-ring cell adenocarcinoma can be distinguished from classical adenocarcinoma by a more advanced stage at diagnosis and a greater propensity for peri-
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The immunohistochemistry profile [15] of the colonic localizations (generally CK7-/CK20+ as in our case) is different from the classical pattern observed in gastric localizations (generally CK7+/CK20-), allowing distinction between colorectal metastasis and gastric linitis. In contrast, it would appear that E-cadherin-related abnormalities of the cell adhesion system [16] is a characteristic feature, at least in poorly-differentiated adenocarcinoma of the rectum. It is even probable that epigenetic inactivation of E-cadherin via hypermethylation of its promoter could be a critical event occurring early in the development of undifferentiated and signet-ring cell cancers [17]. The rapid course of the disease with numerous subcutaneous metastases observed in our patient has also been observed by Low [8] who reported a similar case. This rapid dissemination to unusual localizations, particularly the skin, might be related to genetic [19] or acquired alteration in E-cadherin. This type of mechanism cannot be implicated in the present case because the tumor cells strongly expressed normal E-cadherin.

In conclusion, tonsillar metastasis is an exceptional but sometimes inaugural manifestation revealing generally poorly-differentiated or signet-ring cell cancer of the digestive tract. Anomalous expression of adhesion molecules frequently found in this type of cancer might be involved in the pathogenesis of the metastatic process.

REFERENCES


