

Gastric carcinoma metastasis to the palatine tonsil – case report

Rak żołądka z przerzutami do migdałka podniebiennego – opis przypadku

Authors' Contribution:

A – Study Design
B – Data Collection
C – Statistical Analysis
D – Manuscript Preparation
E – Literature Search
F – Funds Collection

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ABSTRACT:

Aim: The aim of the study is to present a rare case of metastatic tumor localized in pharyngeal tonsil being the first symptom of gastric carcinoma.

Case report: Retrospective analysis of medical documentation was performed. A 44-years-old men was referred to the Department presenting a complaint of enlarged right pharyngeal tonsil. The mass was not painful. Patient reported tobacco smoking (20/day) for many years. In the intraoral examination a 2 cm right palatine tonsil was present. There was a slight asymmetry between tonsils. Local lymph nodes were not enlarged. FNAC was performed stating suspicion of carcinoma. Patient was qualified for the tonsillectomy under general anesthesia. Histopathological finding was adenocarcinoma (G2) infiltration. Due to no correlation of clinical presentation and histopathological finding PET-CT examination was performed revealing massive gastric infiltration, tumor of the left adrenal gland, increased 18-FDG uptake in epigastric and para-aortic lymph nodes. Gastroscopy and biopsy was performed. Histopathological material confirmed adenocarcinoma presenting the same immunotype as tonsillar. Patient was qualified for paliative treatment. He died 6 weeks after stating the diagnosis. Metastases to the pharyngeal tonsils constitute rare disease entities. Mostly the primary site is localized in the region of head and neck. In our case the metastatic tumor of the right tonsil was the first sign of the gastric cancer.

KEYWORDS:

gastric carcinoma, palatine tonsil metastasis, palatine tonsil tumor

STRESZCZENIE:

Cel: Celem pracy jest przedstawienie rzadkiego przypadku guza migdałka podniebiennego, będącego przerzutem oraz pierwszym objawem raka żołądka.

Opis przypadku: Przeprowadzono retrospektywną analizę dokumentacji medycznej. 44-letni mężczyzna został skierowany do Kliniki Chirurgii Nowotworów Głowy i Szyi Uniwersytetu Medycznego w Łodzi z powodu niebolesnego guza migdałka podniebiennego. W badaniu laryngologicznym stwierdzono obecność 2-centymetrowego guza migdałka podniebiennego prawego. Węzły chłonne szyjne nie były powiększone. W wykonanej BAC stwierdzono podejrzenie raka. Pacjent został zakwalifikowany do tonsillektomii prawostronnej. W badaniu histopatologicznym obecny był naciek gruczolakoraka (G2). Ze względu na brak korelacji obrazu klinicznego i wyników histopatologicznych, wykonano badanie PET-CT, w którym stwierdzono: masywny naciek żołądka, guz lewego nadnercza oraz zwiększony wychwyty 18-FDG w przyaortalnych węzłach chłonnych. Wykonano gastroscopię z biopsją guza żołądka. Badaniem histopatologicznym potwierdzono gruczolakoraka wykazującego ten sam immunotyp, co guz migdałka. Pacjent został zakwalifikowany do leczenia paliatywnego. Zmarł 6 tygodni od postawienia rozpoznania. Przerzuty do migdałków podniebiennych z odległego ogniska pierwotnego są niezwykle rzadkie. Zazwyczaj ognisko, pierwotne miejsce zlokalizowane jest w okolicy głowy i szyi. W naszym przypadku przerzutowy guz prawego migdałka był pierwszą oznaką raka żołądka.

SŁOWA KLUCZOWE:

guz migdałka podniebiennego, przerzut do migdałka podniebiennego, rak żołądka

ABBREVIATIONS

FNAB – fine needle aspiratory biopsy

PET-CT – Positron Emission Tomography

INTRODUCTION

Head and neck neoplasms account for about 3–5% of all neoplasm diseases while palatal tonsil's neoplasms account for only 4% of head and neck malignancies. Metastases to the palatal tonsil account for 0.8% of all malignancies present in that structure [1]. National Cancer Registry states that in Poland in 2012 there were 519 new cases of palatal tonsil neoplasms (C09) – 376 in men and 143 in women. No information was provided on metastases to that organ. A study by Davies states that the most common neoplasms of that region include: squamous cell carcinoma (SCC) – 81.6%, lymphoma – 13.8%, basaloid carcinoma – 0.3%, plasmocytoma – 0.3%, undifferentiated carcinoma – 0.3% [2].

Metastatic tumors to the palatal tonsils are extremely rare, with about 100 cases in the literature since 1907 being recorded [3, 4].

In this study we present a case of gastric carcinoma metastasis to the palate tonsil.

CASE PRESENTATION

A 44-year-old male was referred to the Department of Head and Neck Neoplasms Surgery Medical University of Lodz. He presented a complaint of an enlarged right palate tonsil. The mass was not painful. Patient reported tobacco smoking (20 cigarettes/day) for many years. In the intraoral examination a 2-cm right palate tonsil was seen (Fig. 1.). There was a slight asymmetry between the tonsils. Local lymph nodes were not enlarged. In laboratory examination, anemia was noted – Hb 8.1 g/dL.

Ultrasonography examination of the neck was performed. No regional lymph nodes were enlarged.

Fine needle aspiratory biopsy (FNAB) was performed stating a suspicion of carcinoma (Fig. 2.).

The patient was qualified for the tonsillectomy under general anesthesia. Due to the anemia, 3 units of packed red blood cells were transfused. A histological finding in the postoperative material was adenocarcinoma (Fig. 3.).

Due to no correlation of clinical presentation and histopathological finding, a PET-CT examination was performed revealing massive gastric infiltration, tumor of the left adrenal gland, and increased 18-FDG uptake in the epigastric and para-aortic lymph nodes (Fig. 4.).

Gastroscopy and biopsy were performed. Histopathological material confirmed adenocarcinoma presenting the same immunotype as the tonsillar one.



Fig. 1. Intraoral examination. Enlarged palatal tonsil is present.

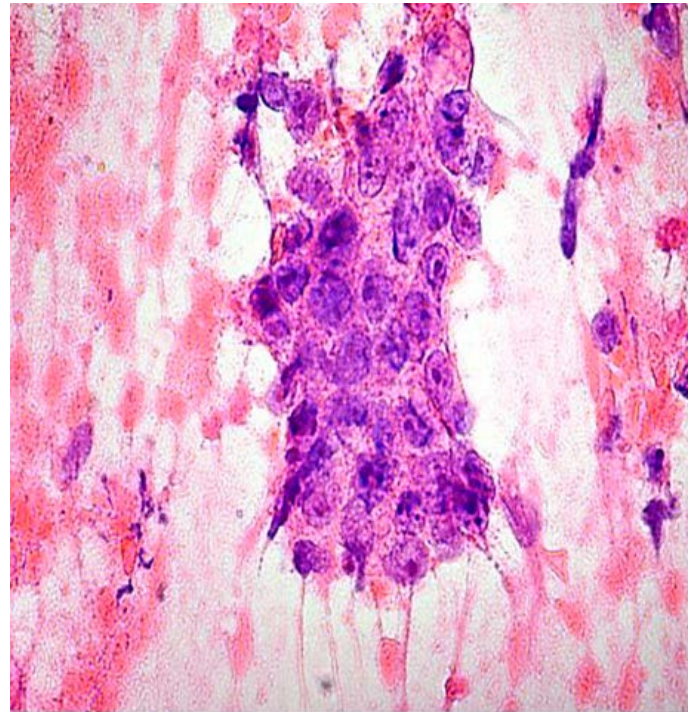


Fig. 2. FNAC findings.

Due to the disseminated neoplasm, patient was qualified for the palliative treatment. He died 6 weeks after the diagnosis.

DISCUSSION

The first case of metastatic tumor in the palatine tonsil was described by Joseph in 1907 [5]. Since the first description, about 100 cases of metastasis to the palate tonsil have been presented. Hyams et al. in the group of 1535 patients with palatal tonsil neoplasms stated that the metastatic tumor was present in 12 cases only (0.8%) [6].

Palatine tonsils present very rich vascularization of both, blood vessels, as well as lymphatic vessels. More importantly, palatine

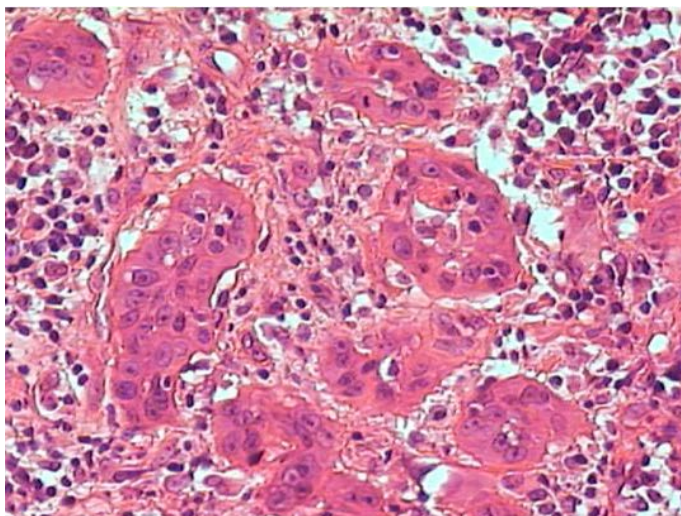


Fig. 3. Post-operative material; histologically classified as adenocarcinoma.

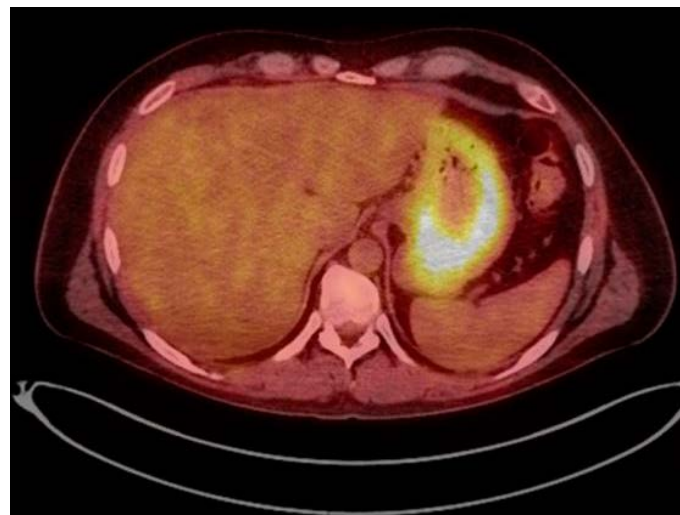


Fig. 4. PET-CT examination presenting increased 18-FDG uptake in the gaster.

tonsils have no afferent lymphatic vessels [3]. Due to that, the dissemination of cancer cells to the tonsils remains unclear. Several theories on the pathomechanisms of metastases to the palatine tonsils have been proposed. Many authors suggest that the most probable way of cancer spread is by blood vessels [7]. Another theory suggests retrograde movement of tumor cells through lymphatic vessels of the neck either from the thoracic duct or from the veins of the neck, and further to the tonsil [8]. In case of the respiratory tract cancer, the pathomechanism of secondary implantation of cancer cells during endoscopic biopsy is suggested [9]. Asami et al. suggested an alternative way of the metastases. According to the authors, neoplastic cells may metastase to the region of the head and neck by by-passing the lungs through Batson's paravertebral venous plexus [10].

The table below (Tab. I.) summarizes the primary sites of metastases to the tonsils. According to the literature, the most common site of metastases was lungs (18 cases). Eight patients presented with large-cell carcinoma, 8 with small-cell carcinoma and 1 with carcinoid tumor.

The most common tumor of the tonsils is squamous cell carcinoma, nowadays subdivided into two morphological groups: HPV-positive and HPV-negative [11].

As much as 20–35% of lesions in the head and neck region may be indicative of a distant neoplastic site in the body [12]. In the case presented by us, the tumor of the palatal tonsil was the first symptom of the advanced gastric carcinoma. The patient did not present any symptoms except for a slight sensation of a foreign body in the pharynx. Yarem et al. showed that tonsillar metastases symptoms include: breathing difficulties, sore throat, irritable cough, dysphagia, otalgia and sensation of a foreign body during swallowing [13]. A secondary symptom was significant

Tab. I. Primary sites of metastases to the tonsils.

SITE OF THE PRIMARY TUMOR	NUMBER OF CASES
Lungs	18
Gaster	12
Skin melanoma	12
Kidney	11
Large intestine	10
Mammal gland	3
Testicle	3
Liver	2
Synovium	1
Esophagus	1
Endometrium	1
Prostate	1
Mesothelium	1
Thyroid	1

anaemia. Also, it has been suggested that carcinoma metastases to the tonsils present unilaterally in contrast to melanoma that presents bilaterally [14, 15].

The performed endoscopic examination revealed advanced gastric carcinoma. The patient was then qualified for palliative chemotherapy. He died before starting the treatment. The overall treatment outcome remains poor.

The presented case highlights the significance of increased oncological awareness. Sometimes the first symptom of an advanced neoplastic disease might be present in the head and neck region, with the primary site being distant.

References

1. Struijs B., de Bree R., van Groenigen, C., Mooi W., Leemans C.R. et al.: Tonsillar metastasis of oesophageal adenocarcinoma. *Eur Arch Oto-Rhino-Laryngol*, 2007; 265(1): 127–129.
2. Davies L., Welch H.: Epidemiology of head and neck cancer in the United States. *Otolaryngol Head Neck Surg*, 2006; 135(3): 451–457.
3. Yamaguchi E., Uchida M., Makino Y., Tachibana M., Sato T. et al.: Tonsillar metastasis of gastric cancer. *Clin J Gastroenterol*, 2010; 3(6): 289–295.
4. Gallo A., Pescarmona E., Crupi J., Corsetti G., De Vincentiis M.: Bilateral tonsillar metastasis of gastric adenocarcinoma. *Head & Neck*, 1992; 14: 55–57.
5. Joseph G.: Ein Fall von metastatischem Magencarcinom. *Dtsch Med Wochenschr.*, 1907; 33: 460–461.
6. Hyams V.J.: Differential diagnosis of neoplasia of the palatine tonsil. *Clin Otolaryngol Allied Sci.*, 1978; 3: 117–126.
7. Park K.K., Park Y.W.: Tonsillar metastasis of signet-ring cell adenocarcinoma of the colon. *Ear Nose Throat J.*, 2010; 11: 376–377.
8. Seddon D.J.: Tonsillar metastasis at presentation of small cell carcinoma of the lung. *J R Soc Med.*, 1989; 11: 688.
9. Mastronikolis N.S., Tsiropoulos G.E., Chorianopoulos D., Liava A. Ch., Stathas T.: Palatine tonsillar metastasis from lung adenocarcinoma, *European Review for Medical and Pharmacological Sciences*, 2007; 11: 279–282.
10. Asami K., Yokoi H., Hattori T., Rao A.J., Yanagita N.: Metastatic gall bladder carcinoma of the palatine tonsil. *J Laryngol Otol.*, 1989; 11: 211–213.
11. Williamson A., Gajra A.: Cancer, Tonsil. [online] Statpearls.com. Available at: https://www.statpearls.com/as/oncologic/30251/#ref_28247229 [Accessed 20 Aug. 2019].
12. Barnes L.: Metastases to the Head and Neck: An Overview. *Head Neck Pathol*, 2009; 3(3): 217–224.
13. Yaren A., Değirmencioglu S., Topsakal Ş., Yüksel S., Bir F. et al.: Tonsillar metastasis from small cell lung cancer: Rare but occurs. *Turk J Cancer*, 2009; 39: 28–30.
14. Brownson R.J., Laques W.E., LaMonte S.E., Zollinger W.K.: Hypernephroma metastatic to the palatine tonsils. *Ann Otol Rhinol Laryngol*, 1979; 88: 235–240.
15. Benito I., Alvarez-Gago T., Morais D.: Tonsillar metastasis from adenocarcinoma of the stomach. *J Laryngol Otol.*, 1996; 110: 291–293.

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