Case Report

Gastric mucosa-associated lymphoid tissue lymphoma in the context of multiple primary neoplasms

Christian Ribas*, Rosirê Wolfenbüttel Ribas, Fábio Antonio Tironi, Leonora Zozula Blind Pope

Hospital Dona Helena, Joinville, SC, Brazil

ARTICLE INFO

Article history:
Received 24 May 2017
Accepted 4 January 2018
Available online 17 February 2018

Introduction

Cancers of different cellular composition and distinct sites of origin are unquestionably separate primaries, which can be temporally diagnosed near to each other or at different times.1

The prevalence of multiple primary malignant neoplasms seems to vary from 0.734% to 11.7%.2 Typically, a patient with a first cancer who develops a second one will do so over time with the presentation of a patient with concurrent primary tumors of distinct histology in separate organ systems being quite unusual.3,4 Recognizing such tumors, however, is important not only for prognostic purposes, but, more importantly, for therapeutic interventions.

Herein, we report on a case of a male patient diagnosed with gastric mucosa-associated lymphoid tissue (MALT) lymphoma simultaneously to the diagnoses of colon granular cell tumors and metastatic lung cancer.

Case report

A previously healthy 56-year-old male patient presented with right posterior chest pain and cough. He was a 63 pack-year active smoker, had had gastric surgery for peptic ulcer disease 20 years previously and was allergic to penicillin. His family history was positive for two cases of cancer; his father had died from lung cancer, and a cousin had died from breast cancer.

The initial chest X-ray showed middle lobe opacity and a small nodule in the upper right lobe. Chemistry panel on presentation was unremarkable except for an albumin level of 3.5 g/dL, corrected calcium of 10.8 mg/dL and gamma-glutamyl transferase of 97 IU/L. Complete blood count was normal except for a hematocrit of 55.6%. Computed tomography (CT) of chest and abdomen revealed lesions in the right lung suggestive of malignancy, a lytic lesion with pathologic fracture...
Figure 1 – (A) Histologic features of the gastric biopsy: A1 – Gastric mucosa with extensive atypical lymphoid infiltration [hematoxylin and eosin (H&E) – 100×]; A2 – Diffuse reactivity for CD20 – 100×; (B) Histologic features of colon polyps: B1 – Granular cell tumor (H&E – 400×); B2 - Strong and diffuse reactivity for S100 – 400×; (C) Histologic features of lung lesions: C1 – Lung mucinous adenocarcinoma (H&E – 100×); C2 – Positive reactivity for TTF1 – 100×.

Discussion

Although authors use different criteria to characterize cases of multiple primary tumors, they can be defined as two or
more independent primary reportable neoplasms, arising as lesions in the same or separate organs/anatomical portions of
the body of an individual. A cancer of different cellular com-
position and distinct site of origin than the original tumor is
a separate primary, as well as cancers of different histologic
types in the same site.

The distinct histologies may be identified simultaneously or
at different times, as synchronous or metachronous
tumors. The time framework to call a tumor synchronous or
metachronous is variably established. While some authors
state that synchronous tumors occur within two months of
each other, and a metachronous tumor occurs more than
two months after the initial cancer diagnosis, others would
classify malignancies as synchronous if the interval between
their diagnoses is less than or equal to six months, and
metachronous when tumors occur more than six months
apart.

A literature review of 1,104,269 cancer patients found the
prevalence of multiple primary malignant neoplasms to vary
between 0.73% and 11.7%.

More recently, it was observed that 14% of patients diagnosed with a first primary cancer
developed a second cancer on extended follow-up with a
cumulative incidence of 5.0%, 8.4%, 10.8% and 13.7% at 5, 10,
15, and 25 years, respectively. The highest overall frequency of
second cancers was among those diagnosed between 50 and
69 years of age.

Typically, a patient diagnosed with the first cancer that devel-
ops a second one will do so over time. There is limited data
in cases of multiple synchronous tumors in one patient; the
information available comes mainly from case reports.

The occurrence of multiple primaries, such as the case
reported here of gastric non-Hodgkin MALT lymphoma, gran-
ular cell tumor of colon and lung adenocarcinoma, is not only
uncommon, but also may result in management dilemmas,
requiring that simultaneous treatment of each cancer be deliv-
ered cautiously because of toxicity and tolerance concerns;
prognostic considerations should be taken into account to pri-
oritize the most virulent tumor.

The incidence of concurrent tumors may be expected to
rise as a result of improved sensitivity and widespread use
of screening and staging methods. Lesions not compatible
with the anticipated metastatic pattern of a given malignancy,
nonparallel response of separate lesions to a certain treat-
ment, and heterogeneous control of symptoms from different
lesions while treating a single tumor are all scenarios that
should bring to mind the possibility of synchronous multiple
tumors, with the attendant need of histologic sampling and
adequate treatment planning.

Conflicts of interest

The authors declare no conflicts of interest.

REFERENCES

1. American Cancer Society. Multiple primary cancers. In: Cancer facts & figures 2009. Atlanta: American Cancer Society; 2009. p. 24–41. Available from: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2009/cancer-facts-and-figures-2009.pdf

2. Demondante CG, Troyer DA, Miles TP. Multiple primary malignant neoplasms: case report and a comprehensive review of the literature. Am J Clin Oncol. 2003;26(1):79–83.

3. Cui Y, Liu T, Zhou Y, Ji Y, Hou Y, Jin W, et al. Five cases report of solid tumor synchronously with hematologic malignancy. Cancer Res Treat. 2012;44(1):63–8.

4. Cerrato MC, Colella E, Ferraresi V, Diodoro MG, Tonachella R. Report of two cases of quintuple primary malignancies and review of the literature. Anticancer Res. 2008;28(5B):2953–8.

5. Johnson CH. SERR program coding and staging manual 2004, revision I. Bethesda, MD: National Cancer Institute, NIH Publ. No. 04-5581; 2004. p. 7–18. Available from: https://seer.cancer.gov/archive/manuals/2004Revision1/SPM04_mainindex.r1.pdf

6. Howe HL. A review of the definition for multiple primary cancers in the United States. In: Workshop proceedings, 2002 December 4–6; Princeton, New Jersey. Springfield (IL): North American Association of Central Cancer Registries; 2003.

7. Ares SL, Polo S, Excursida I, Tognelli F, Mussini S, Gercovich N, et al. Multiple primary cancer in adults (MPCA). J Clin Oncol. 2006;24(18S):16027.

8. Jena A, Patnayak R, Lakshmi AY, Manilal B, Reddy MK. Multiple primary cancers: an enigma. South Asian J Cancer. 2016;5(1):29–32.

9. Fraumeni JF Jr, Curtis RE, Edwards BK, Tucker MA. Introduction. In: Curtis R, Freedman DM, Ron E, editors. New malignancies among cancer survivors: SEER Cancer Registries 1973–2000. Bethesda, MD: National Cancer Institute, NIH Publ. No. 05-5302; 2006. p. 1–7.

10. Travis LB, Rabkin CS, Brown LM, Allan JM, Alter BP, Ambrosone CB, et al. Cancer survivorship-genetic susceptibility and second primary cancers: research strategies and recommendations. J Natl Cancer Inst. 2006;98(1):15–25.