Triple synchronous primary neoplasms in the gastrointestinal tract

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To the Editor: Most of the multiple primary malignancies are metachronous or involve more than one system, we instead describe a case with synchronous triple cancers involving one organ system.

This study was approved by the Institutional Review Board of Severance hospital, Yonsei University (IRB No. 4-2019-0889). A 61-year old man who had no chronic illness, underwent abdominal computerized tomography (CT) scan due to vague abdominal complains and was found to have descending colon wall thickening [Figure 1A], colon cancer (cT3N+) was suspected. He is not smoker or alcohol drunker, and has no family history of malignancies. His chest CT scan results showed esophageal wall thickening [Figure 1B]. Upper gastrointestinal tract (GIT) endoscopy results showed mid esophageal mass [Figure 1C] and gastric mucosal lesion [Figure 1D] diagnosed by biopsy squamous cell carcinoma and adenocarcinoma respectively.

Likewise, colonoscopy results showed a mass in the descending colon [Figure 1E], which was histopathologically confirmed to be adenocarcinoma. The patient underwent upper GIT endoscopic ultrasound and results showed an esophageal mass [Figure 1F] with an enlarged lymph node [Figure 1G], indicating clinical-stage cT4N1, while the gastric lesion [Figure 1H] was staged as cT1aN0.

Endoscopic mucosal resection (EMR) was performed for stomach cancer. Histopathology findings showed well-differentiated adenocarcinoma without lymphovascular or perineural invasion and with negative resection margins [Figure 1I]. The patient underwent robotic esophagectomy and cervical esophagogastrostomy (upfront surgery). Histopathology results [Figure 1J] showed squamous cell carcinoma (pT2N2), thus, adjuvant chemotherapy was initiated (5-fluorouracil and cisplatin). Laparoscopic left hemicolectomy was done. Histopathology results [Figure 1K] showed adenocarcinoma (pT1N0), the genetic study showed kirsten rat sarcoma viral oncogene (*KRAS*) gene and neuroblastoma ras viral oncogene homolog (*NRAS*) gene are wild types and Microsatellite stable.

The difference between the initial clinical stage (cT3N+) and the pathological stage (pT1N0) for the colon cancer is probably a response to the 5-fluorouracil based adjuvant chemotherapy post oesophageal cancer. One year after surgery, the patient had no complications (both early and late), with no recurrence on last follow up and has a good quality of life.

In our case, the treatment of the stomach cancer by EMR started first and it was successful and so we were able to use it for the reconstruction of GIT continuity.

Although international guidelines for the management of clinical stages II and III mid-esophageal cancer indicate neoadjuvant chemoradiotherapy followed by surgery,[1] in our patient we performed upfront surgery followed by adjuvant chemotherapy when indicated dependent on final histopathology to avoid delay in the treatment of other primary cancers. Matsuda *et al*[2] reported no significant difference in overall five years survival between the neoadjuvant chemotherapy followed by surgery and upfront surgery ($P = 0.167$). Chen *et al*[3] also found no survival difference between neoadjuvant chemoradiation followed by surgery and the upfront surgery with pathological stage-based adjuvant chemo-radiation ($P = 0.147$).

In conclusion, we report our case to highlight that healthcare professionals need special strategies for the management of multiple primary malignancies to provide the best oncological outcomes.

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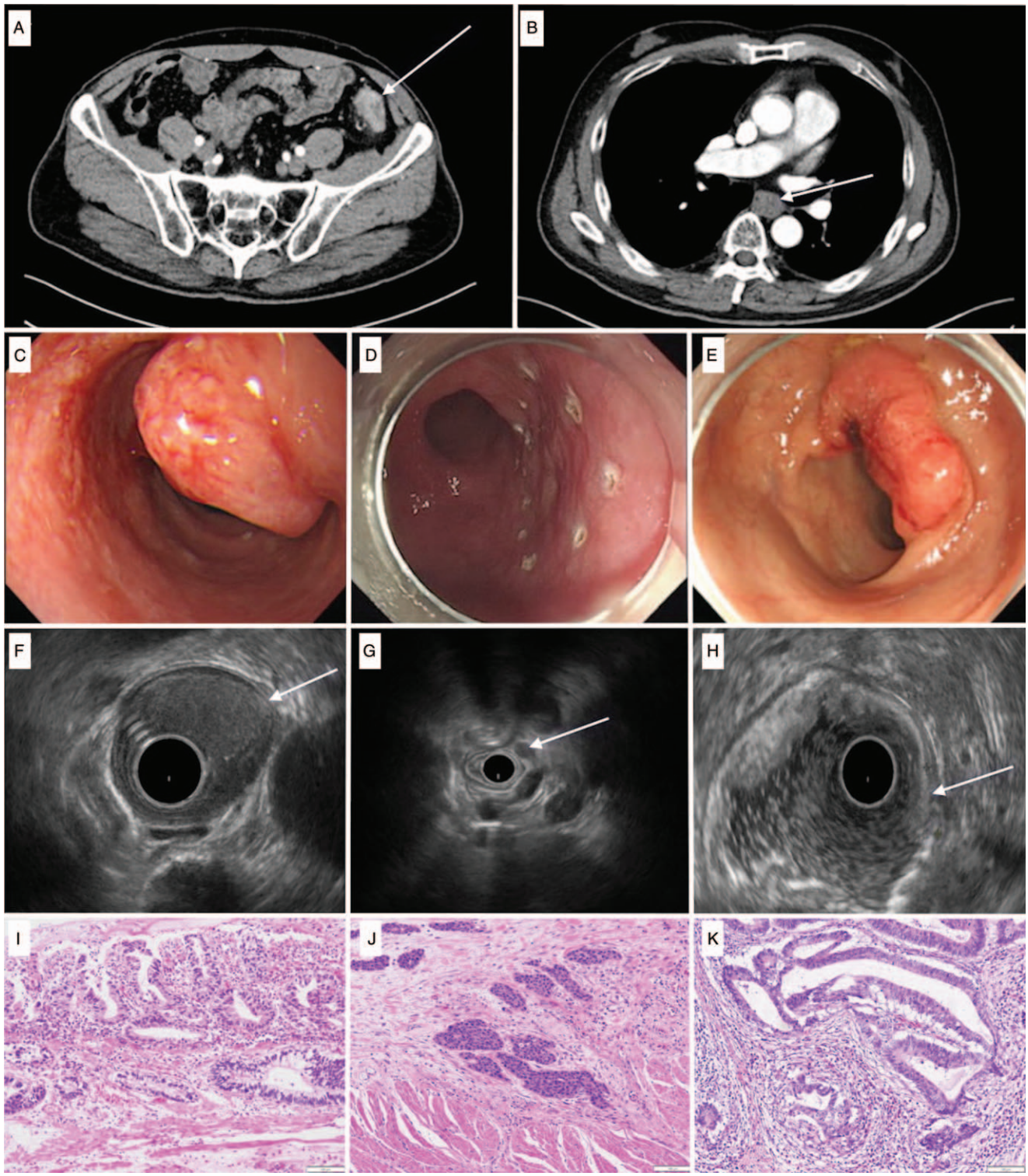

Figure 1: (A–B) Computerized tomography of colon cancer and esophageal cancer, respectively (the arrows). (C–E) Endoscopic visualization of esophageal cancer, gastric cancer, and colon cancer, respectively. (F–H) Endoscopic ultrasound visualizations of esophageal cancer, mediastinal lymph node, and stomach cancer, respectively (the arrows). (I–K). Histopathology results of stomach cancer, esophageal cancer, and colon cancer respectively (Hematoxylin-eosin stain, original magnification, × 100).

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent form. In the form, the patient has given his consent for his images and other clinical information to be reported in the Chinese Medical Journal. The patient understands that his name and initial will not be published and efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

None.

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