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Carcinomatous meningitis as first sign of relapse in a patient with gastric Adenocarcinoma: A rare presentation

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Dear Editor,

Carcinomatous meningitis or leptomeningeal carcinomatosis (LMC) is defined as the infiltration of the pia mater and the arachnoid membrane by malignant cells. LMC is an underestimated complication of malignancy.[1] It is estimated to occur in 5–8% of cancer patients.[2] The incidence of LMC varies by the primary site of malignancy. LMC occurs in 78% of hematologic malignancies if central nervous system (CNS) directed treatment is not administered.[3] It is less common in solid tumors, of which lung cancer (9–25%), breast cancer (2–5%), and melanoma (up to 23%) are the most common. Gastric cancer complicated by LMC is very rare.[4] It is estimated to occur in 0.16% of all cases of gastric cancer, of which the majority (87%) have disseminated disease.[5]

A 55-year-old man was diagnosed with Stage III gastric signet cell adenocarcinoma. After curative surgery in the form of total gastrectomy with Roux-en-Y esophagojejunostomy, he received adjuvant chemotherapy using epirubicin, oxaliplatin, and capecitabine for 6 cycles. One year later, he presented with a 1 week history of headache and vertigo. On examination, he was afebrile, weak but alert, and oriented. Examination of the cranial nerves was normal, sensory, and motor examination was normal without ataxia or nuchal rigidity. Upper gastrointestinal endoscopy and abdominal computed tomography scans were normal. Magnetic resonance imaging scan of the brain showed no abnormality. Electroencephalogram, Vitamin B12, thyroxin stimulation hormone, folic acid, and ammonia level were unremarkable. A diagnostic lumber puncture was performed revealing an opening pressure of 21 cm water. Cerebrospinal fluid (CSF) analysis showed white blood cell of 31 with 55% lymphocytes, 1% polymorphonuclear white cells, 36% atypical cells, protein of 120 mg/dL, and glucose of 85 mg/dL. Cytologic examination confirmed CSF involvement with adenocarcinoma with signet cell features [Figure 1]. CSF microbiologic workup was negative. The patient was advised weekly triple intrathecal chemotherapy along with cranial radiotherapy, was given the first dose of triple intrathecal chemotherapy with methotrexate, Ara-C, and hydrocortisone along with best supportive care. He was lost to follow-up after the first dose and died at home about 4 weeks after discharge from the hospital (as ascertained from the patient's relative by phone).

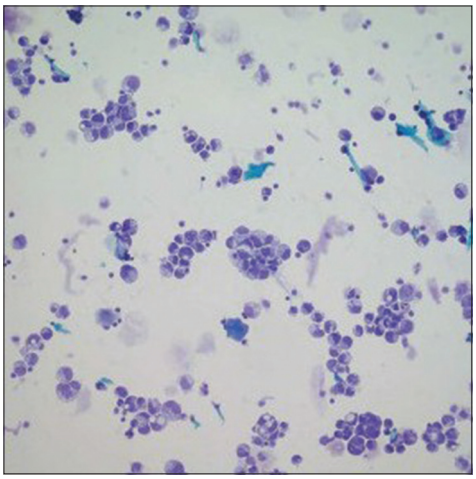

Figure 1: Cytospin smear shows numerous cells, comprising lymphocytes, occasional neutrophils, and macrophages such as large cells. These cells have multivacuolated cytoplasm and large nucleus, at places nuclear indentation is seen. Occasional cells show signet ring cell morphology. Histiocytic giant cells are seen. Mitotic activity is also noted. The large cells are positive for mucin stain. Cerebrospinal fluid is positive for mucin secreting poorly differentiated carcinoma

LMC can be the first sign of relapse of gastric adenocarcinoma in the context of gastric cancer signifies poor prognosis. A unexplained headache in patients with solid tumors, even if locally controlled, should warrant consideration, and appropriate investigations for CNS and/or meningeal relapse.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Grossman SA, Krabak MJ. Leptomeningeal carcinomatosis. Cancer Treat Rev 1999;25:103-19.

2. Pentheroudakis G, Pavlidis N. Management of leptomeningeal malignancy. Expert Opin Pharmacother 2005;6:1115-25.
3. Martins SJ, Azevedo CR, Chinen LT, Cruz MR, Peterlevitz MA, Gimenes DL. Meningeal carcinomatosis in solid tumors. Arq Neuropsiquiatr 2011;69:973-80.
4. Slimane K, Andre F, Delaloge S, Dunant A, Perez A, Grenier J, *et al.* Risk factors for brain relapse in patients with metastatic breast cancer. Ann Oncol 2004;15:1640-4.
5. Kim M. Intracranial involvement by metastatic advanced gastric carcinoma. J Neurooncol 1999;43:59-62.

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