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Case Report

Headache ın a patient with advanced gastric carcinoma: Leptomeningeal Carcinomatosis

İleri mide karsinomlu hastada baş ağrısı: Leptomeningeal Karsinomatoz

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ABSTRACT

Aim: Among the solid organ tumors, Leptomeningeal carcinomatosis (LMC) is most frequently seen with a rate of 12-35% in patients with metastatic breast cancer. In all gastric cancers, LMC incidence has been reported as 0.14–0.24%, and it is infrequent. Herein we presented a patient with LMC who received systemic treatments for metastatic gastric cancer and presented with headache. A 27-year-old patient with metastatic gastric cancer and peritonitis carcinomatosis, who received docetaxel-cisplatin-fluorouracil in first-line, presented with headache. leptomeningeal involvement was observed in the brain MRI, and malign cells were found in cerebrospinal fluid (CSF). Intrathecal (IT) 12mg methotrexate (MTX) was administered. The patient's IT continued, and the headache complaint decreased significantly after the treatment. After eight weeks of IT MTX treatment, a FOLFIRI regimen was initiated. After the third application, the patient, who was admitted to the emergency room with confusion, died 15 weeks after LMC's diagnosis. Without a standard treatment, LMC is a rare condition that negatively affects survival. Studies in this area are needed to establish new treatment approaches and to prolong survival.

Keywords: leptomeningeal metastasis, gastric cancer, intrathecal therapy

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Öz

Amaç: Solid organ tümörleri arasında Leptomeningeal karsinomatoz (LMC), metastatik meme kanserli hastalarda %12-35 oranıyla en sık görülendir. Tüm mide kanserlerinde LMC insidansı % 0.14-0.24 olarak bildirilmiştir ve seyrektir. Bizler metastatik mide kanseri için sistemik tedaviler alan ve baş ağrısı ile başvuran LMC'li bir hastayı sunduk. Dosetaksel-cisplatin-florourasil alan 27 yaşındaki metastatik mide kanseri ve peritonit karsinomatozlu hasta baş ağrısı ile başvurdu. Beyin MRG'sinde leptomeningeal tutulum görüldü ve beyin omurilik sıvısında (BOS) malign hücreler bulundu. İntratekal (IT) 12mg metotreksat (MTX) uygulandı. Hastanın IT'si devam ettirildi ve tedavi sonrası baş ağrısı şikayeti belirgin olarak azaldı. Sekiz haftalık IT MTX tedavisinden sonra, FOLFIRI rejimi başlatıldı. Üçüncü uygulamadan sonra acil servise kafa karışıklığı ile başvuran hasta LMC tanısından 15 hafta sonra hayatını kaybetti. Standart bir tedavi olmaksızın, LMC sağkalımı olumsuz etkileyen nadir bir durumdur. Yeni tedavi yaklaşımları oluşturmak ve sağkalımı uzatmak için bu alanda çalışmalara ihtiyaç vardır.

Anahtar Kelimeler: Leptomeningeal metastaz; mide kanseri; intratekal tedavi

Introductıon

Leptomeningeal carcinomatosis (LMC) occurs when malignant cells are cultivated into the leptomeninges and cerebrospinal fluid (CSF) in patients with cancer [1]. LMC, which was first described at the end of the 19th century, has recently been observed frequently with the development of sensitive imaging techniques. Long survivals achieved with successful systemic treatments developed in cancer treatment are also among the common causes of LMC [2].

Among the solid organ tumors, it is most frequently seen with a rate of 12-35% in patients with metastatic breast cancer [3]. It has been reported in Asia with a rate of 10-26% in lung cancer [1]. The most common malignancies after breast and lung cancers are malignant melanoma, gastrointestinal cancers, and primary cancers of unknown origin [3]. In all gastric cancers, LMC incidence has been reported as 0.14–0.24%, and it is infrequent. Unfortunately, there is no standard treatment for gastric cancer patients with LMC. In this case report, we presented a patient with LMC who received systemic treatments for metastatic gastric cancer and presented with headache.

Case

Ascites was detected in the physical examination of a 27-year-old female patient presented to the general internal medicine outpatient clinic in June 2016 with the complaint of abdominal pain and weight loss. Paracentesis cytology reported suspicious for malignancy. In the upper GIS endoscopy, an ulcerovegetan mass was found at the corpus and antrum junction, and a biopsy was performed. The patient whose pathology result was compatible with ring cell carcinoma was referred to our oncology clinic and chemotherapy was initiated due to advanced-stage disease (Docetaxel, Cisplatin, 5-fluorouracil) considering possible peritoneal metastasis. No progression was observed in the evaluation after three cycles, and six cycles of treatment were completed. Post-treatment follow-up a computerized tomography (CT) revealed peritonitis carcinomatosis. During this period, leptomeningeal involvement was observed in the brain MRI of the patient who had a severe headache. CSF sampling was performed, malignanant cells were found in the cytology. After the sampling, a significant regression was observed in the patient's headache. Intrathecal (IT) 12mg methotrexate (MTX) was administered to the patient suspected of having LMC with brain MRI, cytological and clinical findings. The patient's IT continued, and the headache complaint decreased significantly after the treatment. After eight weeks of IT MTX treatment, a FOLFIRI regimen was initiated in the patient whose CSF cytology did not show malignant cells. After the third application, the patient, who was admitted to the emergency room with confusion, died 15 weeks after LMC's diagnosis.

Discussion

Although headache is one of the most common symptoms, various symptoms and signs are seen depending on the area of involvement in LMC. In posterior fossa involvement, double vision, facial paralysis, and hearing loss can be seen due to the involvement of the VI, VII, and VII'th cranial nerves. Radiculopathy, loss of sensation, loss of strength, and bowel dysfunction can be seen in spinal cord involvement. In addition, tumor cells cause hydrocephalus by disrupting the CSF flow with inflammatory reactions, and this causes nausea, vomiting, positional headache, and somnolence due to increased intracranial pressure. LMC should definitely be considered in the differential diagnosis of cancer patients

with multifocal neurological symptoms. [4,5]. The case we presented was also admitted with a severe headache and was diagnosed with LMC after evaluations.

When considering LMC in cancer patients, the first examinations will be brain MRI with gadolinium and CSF sampling. The sensitivity of brain MRI has been reported as 70% and specificity as 77-100%. If there is no contraindication, the patient should have a lumbar puncture (LP). The gold standard is to show malignant cells in the CSF sample. [6]. In our case, leptomeningeal involvement was observed in the brain MRI, and malign cells were found in CSF.

LMC, which can be observed in solid organ tumors and hematological malignancies, is an indicator of poor prognosis, and the expected average survival time in patients with LMC is 2-4 months [7]. Data about the prognosis of gastric cancer patients with LMC can only be obtained from case reports in the literatüre [8]. Overall survival in patients with LMC was found to be 11-120 days in case reports [8]. Our case also survived relatively longer than other cases, with 15 weeks (105 days).

Conclusion

Without a standard treatment, LMC is a rare condition that negatively affects survival. Studies in this area are needed to establish new treatment approaches and to prolong survival.

References

1. Hyun JW et al. Leptomeningeal metastasis: Clinical experience of 519 cases. Eur J Cancer 2016; 56: 107-114.
2. Groves MD. New strategies in the management of leptomeningeal metastases. Arch Neurol 2010; 67: 305-12.
3. Clarke JL et al. Leptomeningeal metastases in the MRI era. Neurology 2010; 74: 1449-54.
4. Balm M, Hammack J, Leptomeningeal carcinomatosis. Presenting features and prognostic factors. Arch Neurol 1996; 53: 626-32.
5. Lara-Medina F et al, Clinical features and prognostic factors in patients with carcinomatous meningitis secondary to breast cancer. Breast J 2012; 18: p. 233-41.
6. Batool A, Kasi A. Leptomeningeal Carcinomatosis in StatPearls. 2018, StatPearls Publishing LLC: Treasure Island.
7. Wang N, MS Bertalan, PK Brastianos. Leptomeningeal metastasis from systemic cancer: Review and update on management. Cancer 2018; 124: 21-35.
8. Vergoulidou M. Leptomeningeal carcinomatosis in gastric cancer: a therapeutical challenge. Biomarker insights 2017; 12:1-4