Uterine sarcoma is one of the rare gynecological cancers that comprise less than 1% of female genital cancers worldwide. It constitutes 3 to 7% of all uterine cancers. The most common form of uterine sarcoma is leiomyosarcoma (30-40%), with an annual incidence of approximately 0.8 per 100,000. The myometrial localization of the tumor significantly contributes to early lymphovascular invasion and spreads to the extrapelvic areas. Although 60% of patients are diagnosed at an early stage, the prognosis is poor. The recurrence rate varies widely from 45 to 75%. The most common site of first recurrence is the lungs. The time for recurrence is between 12 and 24 months. Mortality in metastatic patients can occur within 2 years.

Uterine leiomyosarcoma can metastasize either through the lymphatic system or via hematogenous spread. The most common metastatic sites are the lungs, peritoneal cavity, and liver. The resection of isolated extrapelvic metastases is associated with prolonged survival. No nasopharyngeal metastasis of uterine leiomyosarcoma has previously been reported in the English literature. In the present report, we present a case of uterine leiomyosarcoma with nasopharyngeal metastases while being followed up after surgery.

CASE REPORT

A 53-year-old multiparous woman presented to the gynecology outpatient clinic with a complaint of vaginal bleeding. After a thorough physical examination, pelvic magnetic resonance imaging (MRI) was requested. MRI of the lower abdomen revealed nodular lesions in the uterus, the largest of which was 10×9×5 mm in size, which were evaluated for intramural and subserosal myoma.

ABSTRACT Uterine leiomyosarcoma constitutes one of the rare gynecological cancers and contributes to less than 1% of female genital tract cancers. Being one of the rare sites for metastasis development, metastasis of uterine neoplasms in the nasopharyngeal region is extremely rare. A 53-year-old multiparous woman with FIGO Stage Ib uterine leiomyosarcoma presented with nasal congestion 1 year following primary treatment. Paranasal computed tomography revealed a nasopharyngeal mass. The immunohistochemical study demonstrated that tumor cells were stained negative for desmin, h-caldesmon, and estrogen receptor, and were positive for p16 and Ki67. The proliferative index was 50 to 60%, confirming the nasopharyngeal metastasis of uterine leiomyosarcoma. No distant metastasis or local recurrence was evident in her systemic radiological evaluation. The patient received curative radiotherapy after nasopharyngeal mass excision, following which systemic chemotherapy was initiated. After the completion of treatment, the patient was followed for 9 months without recurrence or metastasis. These findings demonstrated that local treatments for metastases will contribute to patient survival.

Keywords: Uterine leiomyosarcoma; nasopharyngeal metastasis; leiomyosarcoma
After the endometrial biopsy result was compatible with leiomyosarcoma, total abdominal hysterec-tomy+bilateral salphingo-opherectomy (TAH+BSO) was performed. Histopathological examination revealed that the submucosal tumor consisted of cells with nodal spindle morphology and clear to moderate cytological atypia. Thirty atypical mitoses were observed per 10 high-power fields. Tumor necrosis and extensive degeneration were present and bizarre leiomyoma nodules adjacent to the tumor were observed. The Ki 67 proliferation index was 60%. The tumor was reported as leiomyosarcoma (Figure 1). No recurrence or residual mass was observed in postoperative abdominal imaging. After surgery, the patient was followed up without adjuvant treatment. After 1 year of follow-up, the patient complained of nasal congestion lasting 1 month, and subsequent physical examination revealed a nasopharyngeal mass. Paranasal computed tomography (CT) revealed a polypoid soft tissue structure with a diameter of approximately 3.5 cm, obliterating the air column in the posterior-superior nasopharynx (Figure 2). Histopathology of the excised mass revealed hyperchromatic nuclei, prominent nucleoli, and coarse vesicular chromatin structure, which partially comprised multinuclear spindle, round, oval, prominent pleomorphism, and atypia cells (Figure 3). Widespread necrosis foci were noted, and an immunohistochemical study revealed that tumor cells were negatively stained for myoD1, S100, CD34, and SMA, whereas these were positively stained for desmin, h-caldesmon, estrogen receptor (ER), and p16 (Figure 4). Immuno-histochemical studies with Ki67 revealed a proliferative index of 50 to 60% and corroborated with “leiomyosarcoma metastasis” due to positive staining for desmin and ER of tumor cells and similar histomorphology to the previous tumor histology from the uterus. We planned radiotherapy because the surgical margins were positive. We did not observe evidence of recurrence or metastasis on the brain and neck MRI and also on the thorax and abdominal CT. After systemic scans, the patient received 66 Gray (Gy) curative RT at a dose of 2 Gy/fx, which was applied to the nasopharyngeal tumor using the volumetric modulated arc therapy technique. Gemcitabine and docetaxel chemotherapy was initiated after radiotherapy. The patient was adminis-

FIGURE 1: A tumor with spindle morphology in the uterus, composed of atypical cells forming fascicles (H&E, x200).

FIGURE 2: Polypoid soft tissue structure with a diameter of approximately 3.5 cm obliterating the air column in the posterior nasopharynx in paranasal computed tomography.

FIGURE 3: Atypical, spindle-shaped, pleomorphic cells with atypical mitosis in the nasopharynx (H&E, x400).
tion of chemotherapy, the patient was followed for 9 months without recurrence or metastasis.

**DISCUSSION**

Several factors effective in the prognosis of uterine leiomyosarcomas, such as age, stage, grade, surgical margins, tumor diameter, cellular atypia, mitotic rate, lymphovascular invasion, lymph node positivity, oophorectomy, presence of necrosis, have been widely studied. Because no correlation was observed between survival and grade, leiomyosarcomas were not graded. The stage and mitotic activity affect the survival in leiomyosarcoma. No histological and prognostic marker is yet available. Therefore, the stage of the disease at the time of diagnosis is considered the most important prognostic factor. Histo-

logical markers include spindle cells, atypical mitotic activity (>10 mitosis/10 BBA), nuclear pleomorphism, coagulation necrosis, hypercellularity with fascicular growth pattern, and invasion into the surrounding myometrium. The differentiation between infarct and hyaline necrosis becomes necessary in the presence of coagulation necrosis. In our case, the diagnosis was confirmed by a second pathological evaluation. In addition, p53 overexpression and p16 positivity were detected, and our patient had p16 positivity. Because Ki67 is indicative of increased proliferation capacity, it is used to differentiate benign and malignant tumors, along with positive steroid receptors. In the present case, Ki67 was high at 60%, and ER positivity was present.

The 5-year survival rate is approximately 63.6% in premenopausal patients, which decreases to 5.5% in postmenopausal patients. The tumor peaks in the perimenopausal period and is often diagnosed between the ages of 35 and 75 years. Presenting symptoms may include abnormal uterine bleeding (56%), palpable pelvic mass (54%), or pelvic pain (22%). Because symptoms are similar to benign leiomyoma, the disease is diagnosed by histopathological examination of myomectomy or hysterectomy materials. Leiomyosarcomas are usually diagnosed when they are large and solitary, and 75% of them are larger than 5 cm. In our patient, three myomas were present in the uterus; 7 cm, 4 cm, and 1 cm in size. The patient was diagnosed with leiomyosarcoma from a 4 cm myoma, which was a bleeding focus.

The 5-year survival is over 76% in Stage 1 disease and around 60% in Stage 2 disease. However, this rate decreases to 10 to 15% in metastatic disease. The mainstay treatment for uterine leiomyosarcoma is surgical resection. Adjuvant chemotherapy and/or radiotherapy can be added to treatment depending on the stage at the time of diagnosis. No additional survival benefit of adjuvant therapy following surgery has been reported in Stage 1 and 2 diseases. Because ovarian metastasis of primary uterine leiomyosarcoma is rare, oophorectomy is controversial. In our case, we performed TAH+BSO. The oral cavity and oropharynx are very rare sites of metastasis. Metastases from other pri-
mary foci can be observed in 1 to 2% of oral malignant tumors. A case of colon cancer with nasopharyngeal metastasis has been reported in the literature. Nasopharyngeal carcinoma has been reported to often develop from the ceiling of the posterior wall of the nasopharynx. The distinction between primary malignancy and metastasis is not possible with physical examination. Nasopharyngeal carcinoma frequently presents as a mass in the neck, with accompanying hearing problems. The rate of lymph node metastasis at the time of first diagnosis is approximately 80%. Advanced cases are characterized by ocular findings due to local invasion. Metastases from uterine leiomyosarcoma are extremely rare. To the best of our knowledge, this is the first case reported in the English literature. In conclusion, clinically, nasopharyngeal metastases from uterine leiomyosarcoma are extremely rare. To the best of our knowledge, this is the first case reporting the occurrence of uterine leiomyosarcoma. We believe this case report not only extends the disease database but also serves as a warning to doctors to heed these clinical scenarios. Strict monitoring of patients with uterine leiomyosarcoma after primary treatment could lead to early diagnosis of metastases and provide patients with better opportunities for treatment and improved prognosis.

Informed consent was obtained from the patient who is the subject of our article.

**Source of Finance**

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

**Conflict of Interest**

No conflicts of interest between the authors and/or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

**Authorship Contributions**

Idea/Concept: Demet Işık Bayraktar; Design: Demet Işık Bayraktar; Control/Supervision: Güzin Demirag; Data Collection and/or Processing: Demet Işık Bayraktar, Seda Gümüş, İlay Çamışdağ; Analysis and/or Interpretation: Güzin Demirag; Literature Review: Güzin Demirag; Writing the Article: Demet Işık Bayraktar; Critical Review: Demet Işık Bayraktar.

**REFERENCES**