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Case Report of Castration-Resistant Prostate Cancer with Metastasis to the External Auditory Canal

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Abstract

A case of castration-resistant prostate cancer metastasis to an external auditory canal is described. Prostate cancer (cT3aN1M1b GS5+5) was discovered in a 68-year-old man. Despite the fact that abiraterone, docetaxel, and cabazitaxel were administered and PSA levels were reduced, liver metastasis developed [1-15].Hearing loss was also noted in the left ear, and the patient was referred to an otolaryngologist for an examination, which revealed a neoplastic lesion in the external auditory canal. The results of the biopsy revealed that the patient had adenocarcinoma. Details of a rare case of prostate cancer metastasis to an external auditory canal are presented here.

There have been few reports of prostate cancer metastasis to the external auditory canal. Details of a patient with castration-resistant prostate cancer who later developed external auditory canal metastasis are presented here.

Introduction

A 68-year-old man was referred to our hospital for examination and treatment after visiting a local doctor for gross hematuria. A rectal examination revealed stony hardness and a PSA level of 84 ng/ml, so a transperineal prostate biopsy was performed, and the results revealed adenocarcinoma, GS 5 + 5 = 10. Furthermore, contrast-enhanced computed tomography (CT) revealed metastasis in the pararenal aorta, common iliac, and left external iliac lymph nodes, as well as metastasis in the left iliac and vertebrae. As a result, the patient was diagnosed with prostate cancer, cT3aN1M1b, and treatment options were discussedWe began treatment with abiraterone and degarelix. The lowest prostate-specific antigen (PSA) level was 1.9 ng/ml during the first three months of treatment, but four months later, that level was found to be elevated, indicating disease progression. Testosterone levels were low, and castration-resistant prostate cancer was discovered. After starting docetaxel, PSA dropped from 2.6 to 0.37 ng/ml. Following that, PSA gradually increased, though imaging showed that it was within the standard deviation, and docetaxel was continued. Nonetheless, after 11 courses of docetaxel, PSA increased to 4.1 ng/ml, and the disease was thought to have progressed, with peripheral neuropathy appearing as a side effect, so cabazitaxel administration was initiated.

Subjective Heading

Simultaneously, symptoms of back pain associated with sacral metastasis worsened, and stereotactic body radiation therapy (SBRT) was performed. After five courses of therapy, the PSA level dropped to 3.2 ng/ml; however, contrast-enhanced CT scan findings revealed liver metastasis, and the disease was deemed to have progressed once more. Metastasis was found primarily in the pelvis and vertebrae, with no metastasis found in the skull. Furthermore, carcinoembryonic antigen (CEA) and neuron-specific enolase (NSE) levels were elevated to 201.5 and 47.2 ng/ml, indicating a neuroendocrine tumour, respectively. At the same time, symptoms of hearing loss appeared, and the patient was referred to our hospital's Department of Otorhinolaryngology for a thorough examination, where CT findings reveale

Discussion

A histological examination of the tumour in the external auditory canal revealed that it was an adenocarcinoma metastasis of prostate cancer.Because neuroendocrine degeneration was suspected, prostate and liver biopsy procedures were repeated, and histological results from those specimens confirmed that the lesion was an adenocarcinoma. Following that, the patient complained of headaches and facial paralysis, and magnetic resonance imaging (MRI) results confirmed facial nerve compression, as well as extension to the inner ear and metastasis in the cerebral concha. SBRT was considered as a treatment option for metastasis to the external auditory canal once more. However, due to the patient's decreased performance status, it was decided to conduct follow-up examination

The most common sites of prostate cancer metastasis are bone and lymph nodes, with unusual locations such as the brain, liver, and lungs being uncommon. Cancer of the external auditory canal is also uncommon, but it can be either primary or metastatic. Squamous cell carcinoma is the most common type of primary cancer in these cases, but other primary cancers include salivary gland carcinoma, parotid adenocarcinoma, and skin tumours such as basal cell carcinoma and malignant melanoma. 1 Because ear metastasis is uncommon, there have been few reports of it Cumberworth looked at 165 cases of distant metastasis to the ear, including the temporal bone, middle ear, and outer ear, and discovered that metastatic breast cancer was the most common, followed by lung, prostate, and kidney cancer. 2 However, those prostate cancer reports included cases of metastasis to the temporal bone. In this case, bone scintigraphy performed immediately prior to the onset of metastasis to the external auditory canal revealed no metastasis to temporal bone,reported direct metastasis to an external auditory canal without temporal bone metastasis, with hearing loss as

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the main complaint. Two pathways, vascular and perineural, have been identified for direct metastasis to an external auditory canal, and those in combination can also be affected. 4 A standard treatment protocol has yet to be established due to the small number of reports of prostate cancer metastasis to an external auditory canal. A report presented by another hospital's otorhinolaryngology department in Japan stated that a patient with facial nerve palsy associated with temporal bone metastasis from prostate cancer had hearing loss that improved after radiation therapy. 5 In the case of the current patient, we considered SBRT after consulting with the Department of Otorhinolaryngology at our hospital. However, by that time, his general condition had deteriorated, making it difficult to treat him. Important to consider metastasis to the external auditory canal as a possibility and an otolaryngologist should be consulted to perform an imaging study and then SBRT considered as an option.

Conclusion

Two pathways have been identified for direct metastasis to an external auditory canal: vascular and perineural, and those in combination can also be affected. 4 A standard treatment protocol has yet to be established due to the small number of reports of prostate cancer metastasis to the external auditory canal. According to a report presented by another hospital's otorhinolaryngology department in Japan, a patient with facial nerve palsy associated with temporal bone metastasis from prostate cancer had hearing loss that improved after radiation therapy In the case of the current patient, consultation with our hospital's Department of Otorhinolaryngology led us to consider SBRT as a possible treatment option. However, by that time, his overall condition had deteriorated, making it difficult to treat him.

Simultaneously, symptoms of back pain associated with sacral metastasis worsened, and stereotactic body radiation therapy (SBRT) was performed. After five courses of therapy, the PSA level dropped to 3.2 ng/ml; however, contrast-enhanced CT scan findings revealed liver metastasis, and the disease was deemed to have progressed once more. Metastasis was found primarily in the pelvis and vertebrae, with no metastasis found in the skull. Furthermore, carcinoembryonic antigen (CEA) and neuron-specific enolase (NSE) levels were elevated to 201.5 and 47.2 ng/ml, indicating a neuroendocrine tumour, respectively. At the same time, symptoms of hearing loss appeared, and the patient was referred to our hospital's Department of Otorhinolaryngology for a thorough examination. A mass lesion in the left external auditory canal was discovered using CT imaging.A histological examination of the tumour in the external auditory canal revealed that it was an adenocarcinoma metastasis of prostate cancer (Fig. 2). Because neuroendocrine degeneration was suspected, prostate and liver biopsy procedures were repeated, and histological results from those specimens confirmed that the lesion was an adenocarcinoma. Following that, the patient complained of headaches and facial paralysis, and magnetic resonance imaging (MRI) results confirmed facial nerve compression, as well as extension to the inner ear and metastasis in the cerebral concha. SBRT was considered as a treatment option for metastasis to the external auditory canal once more. However, due to the patient's decreased performance status, it was decided to perform follow-up examinations, and he was primarily treated with palliative therapy. The patient died two weeks after being diagnosed with ear canal metastasis, and a PSA level of 3.7 ng/ml was found.

Two pathways, vascular and perineural, have been identified for direct metastasis to an external auditory canal, and those in combination can also be affected. 4 A standard treatment protocol has yet to be established due to the small number of reports of prostate cancer metastasis to an external auditory canal. A report presented by another hospital's otorhinolaryngology department in Japan stated that a patient with facial nerve palsy associated with temporal bone metastasis from prostate cancer had hearing loss that improved after radiation therapy. 5 In terms of the Consultation with our hospital's Department of Otorhinolaryngology led us to consider SBRT as a potential treatment option for the current patient. However, by that time, his general condition had deteriorated, making aggressive treatment difficult. Although this is a rare case, if symptoms such as hearing loss or facial nerve palsy appear during prostate cancer treatment, it is important to consider metastasis to the external auditory canal as a possibility, and an otolaryngologist should be consulted to perform an imaging study before SBRT is considered.

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Conflict of Interest

The authors declare that they are no conflict of interest.

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