Bone Metastasis in Appendicular Skeleton: Rare Occurrence in Colorectal Cancer

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Bone Metastasis in Appendicular Skeleton: Rare Occurrence in Colorectal Cancer

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Introduction

• Colorectal cancer (CRC) is considered preventable cancer if diagnosed in the early stage.
• CRC is second leading cause of death from cancer in US.
• Bone metastases (BM) is an uncommon presentation in CRC and if it occurs, it involves the axial skeletal more than extremities.
• Many case studies also report that survival after BM is considerably poorer than without BM.
• Cancer type and genetic mutations also play an important role in such metastases.

Case Report

• 62-year-old female with pertinent Past Medical History of adenocarcinoma of colon with 5.4 cm Cecal lesion s/p right hemicolectomy with 0/14 positive lymph nodes.
• She received Capecitabine post-operatively.
• Approximately one and a half year later, patient developed progressive left knee pain.
• MRI knee showed left medial femoral condyle mass with associated soft tissue and bone scan showed increased uptake in the same area.
• Biopsy results showed adenocarcinoma consistent with colon primary.

Imaging

Case Report (Cont.)

• PET CT showed parotid gland and lung nodule with a central mesentry node and a soft tissue density in T9-T10 anterior vertebrae.
• She was referred for palliative Radiation and chemotherapy- FOLFOX-Bevacizumab and bisphosphonate.

Relevant genetic studies:
Adenocarcinoma type CRC - positive for CK-20 and CDX-2.
K-RUS mutation in codon 12 and 13
No NRAS, BRAF, V600E or V600K mutation
CEA- Within Normal Limit

Results

• CRC is considered as a curable cancer if diagnosed in the early stage, but it can be deadly if metastasizes to other organ system.
• Some studies show that prognosis depends on the site of metastasis. If metastases to liver or lung present and if they are resectable, prognosis is favorable.
• Nonetheless, bony metastasis is characterized as poor prognosis.
• Vatandoust & coworker suggested that with signet ring cell cancer, chances of getting BM is higher than other types of CRC (up to 23.7%).
• In our case, patient had adenocarcinoma type CRC and it is not commonly associated with BM.
• Our patient had BM involving appendicular skeleton that is an uncommon presentation. To add, patient had K-RUS mutation and that is also not common mutation type associated with BM.

Conclusion

• We suggest that more molecular studies related to K-RUS and other mutations, and their association with BM need to be done in CRC. It can also help deciding appropriate treatment plan at the early stage.

References