18-YEAR-OLD PRESENTING WITH NON-SPECIFIC ABDOMINAL/BACK PAIN DIAGNOSED WITH METASTATIC EBV NASOPHARYNGEAL CARCINOMA

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Introduction
➢ Nasopharyngeal carcinoma (NPC) is a rare malignancy caused by EBV with incidence under 1 per 100,000 persons-years, more common in African American ethnicity.
➢ There is a higher prevalence of EBV with promiscuous individuals.
➢ NPC is thought to be caused by the aberrant establishment of virus latency in epithelial cells displaying premalignant genetic changes.

Case Presentation
➢ An 18-year-old African American transgender Mtf with no past medical history presented with recurrent non-specific abdominal/mid-back pain with self-reported unintentional weight loss
➢ Multiple ED visits and workup including CT abdomen was unrevealing; however, examination revealed tenderness to palpation over the bilateral posterior iliac crests. Pelvis x-rays was unremarkable and conservative pain managements ensued.
➢ Records from the multiple ED visits revealed progressive weight decline from 94.3kg to 66.8kg during the Covid-19 pandemic.
➢ Hospital readmission for worsening back pain and CT abdomen revealed T10 vertebral body sclerosis with MRI showing heterogeneous enhancement. Biopsy of the lesion was recommended but patient left against medical advice and lost to follow-up for an outpatient PET scan.
➢ In late 2021, the patient presented with complaints of sore throat and left-sided submandibular adenopathy with a negative Strep testing and diagnosis of viral pharyngitis was made.
➢ The patient represented later with worsening cervical adenopathy and pain. Decision for cervical lymph node core biopsy confirmed metastatic EBV-positive lymphoepithelial carcinoma.
➢ CT pelvis revealed sclerotic lesions in the anterior left iliac wing and posterior right ilium. The cycle of admissions and leaving AMA continued which resulted in metastasis to the left humerus. Palliative radiotherapy and chemotherapy ensued after patient formally established care.
➢ Despite radiation therapy and meticulous pain management regimens, patient was admitted to family hospice care and deceased thereafter.

Discussion
➢ This case illustrates a presentation of end-stage NPC with nonspecific back/abdominal pain and unintentional weight loss in an adolescent during the Covid-19 pandemic.
➢ NPC is an epithelial neoplasm arising in the nasopharynx that is x2/3 higher in males with over 133,000 new cases and 80,000 deaths worldwide. WHO classifies nasopharyngeal carcinoma into three histopathologic types: Keratinizing squamous cell carcinoma, Nonkeratinizing carcinoma, Basaloid squamous cell carcinoma.
➢ Major etiologic factors in developing NPC are genetic susceptibility, environmental factors such as exposure to chemical carcinogens or diet high in nitrosamines, and EBV infection. Studies have reported a significantly higher prevalence of EBV among homosexual men than among heterosexual men (39% vs. 6%).
➢ Most common presenting complaints of NPC are headache, diplopia, or facial numbness caused by cranial nerve involvement, and a mass in the neck, due to cervical node metastases with majority of patients present with locally and/or regionally advanced disease because of a prolonged asymptomatic period or due to missed diagnosis.
➢ Analysis of EBV DNA in plasma is useful for screening at-risk populations and diagnosis/staging evaluation showing superior treatment outcomes compared with the unscreened population; primary diagnosis is via endoscopic-guided biopsy of the primary tumor and MRI of the nasopharynx, skull base, and neck to assess locoregional disease extent with PET imaging for advanced stages.
➢ Early in the pandemic the number of visits to ambulatory care practices declined by nearly 60% depicted in the graph in Figure 3. This decline secondary to the pandemic inadvertently affected this patient’s outcome with lack of routine transitional care follow-up in combination with poor health literacy and psychosocial factors.
➢ Initial public health strategies recommended avoiding unnecessary healthcare utilization to decrease virus spread and to ensure that there is enough capacity to handle spikes in COVID-19 cases. Covid-19 protocols have altered admission rates from ED, length of stay, and work-up within the hospital.
➢ The combination of Covid-19 effects on routine outpatient care as well a lack of continuity of care contributed to a late diagnosis and subsequent poor outcome for this case.

Figure 1. NM Bone Whole Body Single SPECT CT

Figure 2. Left Humeral Lesion on MRI

Figure 3. Depicting 60% reduction in ambulatory visits during the pandemic

REFERENCES
• Mehrotra, A., & Chernew, M. E. (2018). The combination of Covid-19 effects on routine outpatient care as well a lack of continuity of care contributed to a late diagnosis and subsequent poor outcome for this case.
• Guidelines for the diagnosis, staging, and management of nasopharyngeal carcinoma into three histopathologic types: Keratinizing squamous cell carcinoma, Nonkeratinizing carcinoma, Basaloid squamous cell carcinoma.
• There is a higher prevalence of EBV with promiscuous individuals.
• NPC is thought to be caused by the aberrant establishment of virus latency in epithelial cells displaying premalignant genetic changes.
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• Despite radiation therapy and meticulous pain management regimens, patient was admitted to family hospice care and deceased thereafter.

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