Individual Case Report

Contributed by Dr. Ximing J Yang, Northwestern University Feinberg School of Medicine, Illinois (USA)

A 69 year old man without prior prostate cancer history underwent prostate needle core biopsy. Large neuroendocrine carcinoma was detected (fig 2A) in every tissue cores from all six locations examined. One a small focus of adenocarcinoma was identified (fig 2B).

Immunostains confirmed the tumor cells positive for NSE, synaptophysin and chromogranin, and AMACR (fig 2) negative for PSA and high Ki67 proliferative activity (fig 2C-F).

His disease progressed quickly after the patient declined chemotherapy and other treatments. A few months later, he was found to have multiple metastatic lesions in the bone, lymph nodes and internal organs.

The biopsy of a lymph node confirmed the diagnosis of metastatic large neuroendocrine carcinoma of the prostate.

The patient received radiation for bone lesions, but he had a poor response to radiation therapy, which failed to control the disease progression. He was sent to hospice for palliative care 11 months after the initial diagnosis.

Figure Legends (see Micro images section)

Fig 1: Large neuroendocrine carcinoma of the prostate composed of large tumor cells with slightly more cytoplasm and fine “salt-pepper” chromatin (A). Chromogranin staining is strongly and diffusely positive in tumor cells (B).

Fig 2: Large neuroendocrine carcinoma of the prostate seen in a 69 year old man, is composed of sheets of large tumor cells with “salt and pepper” chromatin (A). Coexisting prostatic adenocarcinoma is also seen (B) as a minor component. The NEC tumor cells show disuse positivities for chromogranin (C) and AMACR (D, triple stain), but negative staining for HMWCK and p63 and PSA (E). The Ki67 proliferative index is up to 50% of tumor cells (F).