level of < 3 ng/dL (n = 300 - 720 ng/dL) and normal prolactin, IGF-1 and GH levels. On hospital day 2, the patient had worsening encephalopathy with left eye ptosis and decreased vision. Repeat CT and MRI showed no interval change in the pituitary adenoma or evidence of bleeding. An immediate lumbar puncture was performed and CSF analysis revealed an increased leukocyte count of (1106/mm3) with 89% neutrophilic granulocytes, and increased total protein level of 138 mg/dL (n = 15 - 40 mg/dL), red blood cell count of 2040 without xanthochromia and glucose of 130 mg/dL (n = 40 - 70 mg/dL). Based on the laboratory results and new symptoms, empirical antibiotic (vancomycin, ceftriaxone, and ampicillin) therapy was started for suspected bacterial meningitis before the confirmation of the CSF culture study. CSF culture did not grow any organisms. Given the sudden visual impairment and neurological deterioration, the patient underwent transsphenoidal resection of the tumor with free nasal mucosal graft reconstruction. Histological examination revealed a necrotic pituitary adenoma with apoplexy and no evidence of hemorrhage. Postoperatively, his neurological exam greatly improved. His left pupil was reactive to light and the third palsy was improving.
Conclusion: This case reinforces the importance of including PA in the differential diagnosis of acute headache, particularly in patients presenting with visual disturbances. Patients with PA often present with sterile meningitis due to increased debris and blood in the subarachnoid space which closely mimics acute bacterial meningitis. While MRI remains a sensitive imaging modality for the detection of PA, the latter remains a clinical diagnosis. Timely diagnosis with high clinical suspicion and treatment is essential.

Thyroid

THYROID CANCER CASE REPORTS I

The Anti-Tumor Activity of the Selective Ret Inhibitor Selpercatinib (LOXO-292) in Medullary Thyroid Cancer Is Independent of the Specific RET Mutation

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The RET receptor tyrosine kinase proto-oncogene is activated by somatic or germline mutations in a majority of medullary thyroid cancers (MTC). However, treatment of MTC has been challenging due to the lack of effective and tolerable RET-specific therapy, thus testing tumors for the presence of somatic *RET* mutation has not been warranted. In a first-in-human, phase 1/2 clinical trial (LIBRETTO-001, NCT03157128), selpercatinib (LOXO-292), an investigational, highly selective, potent small molecule RET kinase inhibitor, demonstrated significant and durable anti-tumor activity in patients with advanced *RET*-mutant MTC or with diverse *RET* fusion-positive cancers (1). Among the primary analysis set of patients with *RET*-mutant MTC previously treated with cabozantinib and/or vandetanib (N=55), the investigator-assessed objective response rate (ORR) per RECIST 1.1 was 56% (95% CI 42.3-69.7, n=31/55). Duration of response was not reached with a 10.6-months median follow-up (data cutoff date 17-Jun-2019). Here, we evaluated investigator-assessed ORR per RECIST 1.1 and clinical benefit rate (CBR) in this previously treated patient population by *RET* alteration and by germline or somatic testing used for enrollment. The ORR remained consistent across subgroups with *RET* M918T (49%, 95% CI 30.8-66.5, n=16/33), V804M/L gatekeeper mutations (60%, 95% CI 14.7-94.7, n=3/5), extracellular cysteine mutations (43%, 95% CI 9.9-81.6, n=3/7), other mutations (90%, 95% CI 55.5-99.7, n=9/10), and germline (50%, 95% CI 6.8-93.2, n=2/4) or somatic (57%, 95% CI 42.2-70.7, n=29/51) testing. The CBR, defined as the proportion of patients with best overall response of confirmed complete response, confirmed or unconfirmed partial response, or stable disease lasting 16 weeks or more, in this patient set was 87% (95% CI 75.5-94.7, n=48/55). The CBR remained consistent across subgroups with *RET* M918T (88%, 95% CI 71.8-96.6, n=29/33), V804M/L gatekeeper mutations (80%, 95% CI 28.4-99.5, n=4/5), extracellular cysteine mutations (71%, 95% CI 29.0-96.3, n=5/7), other mutations (100%, 95% CI 69.2-100.0, n=10/10), and germline (75%, 95% CI 19.4-99.4, n=3/4) or somatic (88%, 95% CI 76.1-95.6, n=45/51) testing. The primary technologies used to identify *RET* alterations were tumor next-generation sequencing (n=43) and polymerase chain reaction (n=9). As previously reported, selpercatinib was well tolerated with an acceptable safety profile (1). These results indicate broad anti-tumor activity for selpercatinib in patients with *RET*-mutant MTC irrespective of the specific *RET* mutation, and support implementation of *RET* mutation testing for patients with advanced MTC, including somatic testing, to identify patients who may benefit from selpercatinib. **Reference:** (1) Wirth et al., Ann Oncol. 2019 Oct; 30(supplement 5): v933.