DSS 2014 Case 2

Joseph Fullmer  MD, PhD
SUNY Upstate Medical University
Syracuse, NY
Financial Disclosures

- None
- 74 yo woman with skull based mass
- Underwent resection of reported pituitary adenoma 16 ya (1996), s/p radiation
- Received intermittent f/u, had done well until…
- Early 2013, mild bitemporal hemianopsia, right cheek numbness, chronic rhinosinusitis, deviated septum
Patient had pacemaker so could not have MRI, limited evaluation

CT scan revealed 4.3 cm mass centered in sphenoid sinus, invading and extending beyond the sella, infiltrating muscle and the right carotid canal wall

Current lesion was in previous radiation field

However, relationship to previous lesion uncertain
Mass was biopsied, diagnosis rendered
Synaptophysin
Histopathology Summary

- Neoplastic cells with oval nuclei, variable pleomorphism, prominent nucleoli
- Ki-67 15-20% positive nuclei, 8 mits/10 HPF
- Vimentin positive, S100 variably positive
- Chromogranin, synaptophysin, HMB-45, MART-1, PAX-8, neurofilament, and GFAP negative
Discussion
- All keratins (CAM 5.2, CK19, CK20, AE1/AE3) negative except focal CK7
- TTF-1 positive
- CD99, thyroglobulin, PR, ER, EBER all negative
All keratins (CAM 5.2, CK19, CK20, AE1/AE3) negative except focal CK7

TTF-1 positive

CD99, thyroglobulin, PR, ER, EBER all negative

At this point thinking radiation induced meningioma, high grade, anaplastic or papillary
Got one more stain
Got one more stain

- A “Dr. Perry” stain

- Sent to Dr. Arie Perry at UCSF for consult
Diagnosis—Anaplastic Meningioma

- He agreed, calling biopsy material anaplastic meningioma
- However, while he was working it up for some FISH, I requested slides from 1996 “adenoma”
- H&E somewhat faded (so not shown) but they sent us the blocks
- Recuts from blocks stained well
Synaptophysin
- EMA, vimentin, TTF-1 positive
- Synaptophysin, chromogranin negative
- Original had fewer mitotic figures, maybe not as cytologic malignant, but still atypical cytology
- Clearly not pituitary adenoma, probably atypical meningioma
- EMA, vimentin, TTF-1 positive
- Synaptophysin, chromogranin negative
- Original had fewer mitotic figures, maybe not as cytologic malignant, but still atypical cytology
- Clearly not adenoma, probably atypical meningioma
- [aside] current AP director at Upstate was at that hospital in 1996, she did NOT sign original out
When lesion was resected, had some fresh tissue sent for cytogenetics

Took weeks to grow, complex pattern that was not entirely specific, but involved chromosomes 1 and 14 so at least suggestive of meningioma

Pt continues to be followed, returned from winter in Florida and imaging in April was negative
Anaplastic meningioma

- Greater than 20 mitotic figures in 10 HPF
- Not recognizable as meningioma, looks much more malignant (cellular anaplasia)
- Poor prognosis
- Perhaps this one has transformed
- Don’t usually have loss of 22q, but often loss of 1p, 14q, others
REFERENCES


Thank You