Michigan Medicine Laboratories
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ANATOMIC PATHOLOGY CONSULTATION REPORT

Order Number:	**OC-20-9837**	**Referred by:**
First Name:	JOHN	SMITH, SUSAN
Last Name:	DOE	HOSPITAL EAST
MRN:	XXXXUX00000081	333 WAY ST.
Gender:	Male **Age:** 54 Y **DOB:** 7/1/1965	Ann Arbor, MI 48109
Date Received:	05/20/2020	
Date Completed:	05/21/2020	

DIAGNOSIS:

- Left testis and spermatic cord, radical orchiectomy (SV20-1234, 1:A-K; 5/18/2020): Teratoma (2.0 cm, per report); microscopic focus of carcinoid tumor (0.2 cm) arising in association with teratoma. Tumor is confined to the testis; negative for lymphovascular invasion. All margins free of tumor. See LETTER.

Dear Dr. Smith,

I have reviewed the provided H&E slides (including two prepared here) representing sections from a radical orchiectomy performed on your above named patient, a 54 year-old male, who underwent a radical orchiectomy on 5/18/2020 for a 2.0 cm left testicular mass (per gross); serum tumor markers are reported to be an elevated estrone; however, AFP and HCG are normal. The H&E sections demonstrate involvement of the testicular parenchyma by a solid and cystic mass that is composed of benign appearing epithelial (glandular), neural and mesenchymal elements with organoid arrangements; no convincing cytologic atypia is identified. The cystic structures are filled with mucoid material with presence of histiocytes (with positive CD163 and negative Myogenin, Desmin and MyoD1 expression upon immunohistochemistry performed here). These features support the interpretation of a teratoma. Importantly, the background testicular parenchyma shows predominantly active spermatogenesis with focal tubular atrophy and without evidence of germ cell neoplasia in situ (GCNIS) (confirmed by negative OCT-4 and focall SALL-4 expression upon immunohistochemical stains performed here).

Additionally, a small focus within the teratoma comprised of islands and nests of cells separated by fibrous stroma is seen. These cells have eosinophilic cytoplasm and salt and pepper chromatin. Immunohistochemical stains performed here demonstrate these cells to express synaptophysin and chromogranin. Overall, the morphologic features and immunohistochemical results are consistent with a carcinoid tumor.

Finally, the above observations which include a teratoma in the absence of GCNIS bring into discussion here a benign teratoma of the postpubertal testis. While there is a possibility that this teratoma is benign in nature, presence of diverse and mixed teratomatous elements along with a focus of carcinoid tumor is not very well described in the literature. Presence of isochromosome 12p by FISH or next-generation sequencing (or other methodologies) could help confirm that this tumor is indeed a malignant postpubertal tumor; this assay could be attempted on this patient as clinically indicated. Overall, because of the rare nature of this neoplasm, close clinical

follow up is recommended. Also, carcinoid tumors arising in association with a testicular teratomas are rare - patients tend to have a favorable prognosis, although metastasis can occasionally occur and therefore clinical follow-up is recommended.

I have taken the liberty to share this case with my colleague, Angela Wu, M.D., and she agrees with this interpretation.

Thank you for sending this case in consultation. I appreciate the opportunity to participate in the care of this patient, and this letter confirms our telephonic conversation regarding this patient on 5/21/2020. Please do not hesitate to contact me with any additional questions, and I will appreciate to receive any future follow-up if available for this patient.

Sincerely,

Rohit Mehra, M.D.

House Officer(s):

EMAN ABDULFATAH

Materials Received:

A **Outside Case Number:** **SV20 1234**

Materials Received:

Number of prepared slides: 11
Number of unstained slides: 0
Number of blocks: 11

CPT Codes:

Specimen	CPT Code	Number of Charges
A	88323	1
A	88341	7
A	88342	1

Laboratory Accrediting Agency Compliance Statement:
If immunostain testing was performed on this case, the testing was developed and the performance characteristics were determined by the University of Michigan Clinical Immunoperoxidase Laboratory. It has not been cleared or approved by the U.S. Food and Drug Administration. (The FDA has determined that such clearance is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research.) Appropriate negative and positive controls were run and demonstrated expected results. Most antibodies (including ER, PR, and HER2/neu) were not validated on decalcified tissues; negative staining on decalcified specimens should therefore be viewed with discretion, as a falsely negative result cannot be excluded. The Coreo ACIS instrument (if used for any test on this case) is FDA approved.

Performing site:

NCRC	NCRC Department of Pathology and Clinical Laboratories 2800 Plymouth Rd., Building 35 Ann Arbor, MI 48109
CLIA Director:	Riccardo Valdez, MD
CLIA Number:	23D1088637