Thyroid Tissue WHERE?

Danny Burakovsky

UMKC School of Medicine

1. Introduction

- Sacrococcygeal teratomas [SCT] are extremely rare in adults. We present a 65-year-old male with a possible SCT with dedifferentiation into thyroid cancer treated with high level ablation with 202 mCi I-131 NaI.
- This is the first documented case of ablation therapy for a SCT, and the second documented case of malignant thyroid tissue arising from a SCT. Extensive literature review including information by Monteiro (1) Head et al(2), Ahmed and Pollock (3), Ng et al (4), and Bull et al (5) reveals 120 cases of adult SCTs with only one of which de-differentiated into thyroid tissue.
- This case signifies the importance of considering SCT, which is often misdiagnosed, in the differential diagnosis for a pelvic mass presenting with neurological and/or obstructive symptoms.

2. Methods

- Extensive review of the literature was performed, including Ovid, Medline and Pub Med databases, searching for adult SCTs and their treatment.

3. Patient Description

- 65 year old male with a 2-3 year history of right hip pain radiating to right leg, not relieved by conservative measures.
- Initial work up revealed thyroglobulin quantity of >3000. Subsequently, an CT of the pelvis and lumbar spine (image 1) and I-131 whole body scan followed (see image 2) .
- The location of the SCT was very difficult to excise surgically so we decided to perform high level ablation using 202mCi-131 NaI. The thyroid was removed due to fears of swelling following NaI therapy leading to airway compromise. Pathological examination of thyroid revealed no evidence of neoplasm.
- At 3 month post ablation, patient still has mild leg pain controlled with OTC medications, and no evidence of recurrence of the thyroid tissue.

4. Discussion

- 65 year old male with a 2-3 year history of right hip pain radiating to right leg, not relieved by conservative measures.
- SCTs are the most common type of germ cell tumors diagnosed in neonates, infants, and children younger than 4 years. SCTs occur at a rate of 1 in 35,000-45,000, and more often in girls than in boys; ratios of 3:1 to 4:1 have been reported (2).
- SCTs are thought to originate from multipotential cells in Henson's node, which migrates caudally to rest in the coccyx.
- Unlike infant teratomas which usually are externally visible, adult teratoma are usually confined to intrapelvic areas.
- Teratomas can present with complaints of constipation, rectal obstruction, recurrent urinary tract infections, neurologic symptoms such as lower extremity weakness and/or numbness, and pain(1).

Differential diagnosis of sacrococcygeal masses:

•presacrococcygeal simple cystic lesions; anterior meningocele, rectal or anal duplication cyst or anal gland cyst, seroma or urinoma.

•multiloculated cystic lesion; a tail gut cyst. Denser and more complex lesions ; chronic retrorectal abscess, pilonidal or dermoid cyst, soft tissue or bone tumors

•malignant nature: This includes sarcomatous tumors, chordoma or metastases.

•Osteomyelitis of the sacrum may also cause osseous destruction with associated soft tissue mass.

•SCTs should be included in the differential diagnosis, whatever the nature of the lesion is (2-5).

• Reported cases of SCTs in adults are rare. Reviews of the literature demonstrates fewer than 120 SCTs, with only 20 cases described as malignant. Only 1 previously reported case suggests thyroid carcinoma arising from SCT. In all adult SCT, surgical excision was the treatment of choice (4-6, 10-13). Newer protocols suggest that cisplatin, bleomycin, vinblastine, and radiotherapy, in addition to surgical excision, may improve the prognosis of malignant teratomas (1,10).

•This is the first documented report regarding the use of I-131 ablation therapy for SCT with de-differentiation into thyroid carcinoma, and were never before tested for SCTs with de-differentiation into thyroid carcinoma. As well demonstrated in this case, the surgical approach is often complicated by the high vascularity and location of the SCT and may not be the best treatment choice. In our experience, excellent responses to ^{131}I therapy were obtained, without the need for additional treatment.

5. Conclusions

- SCTs must be considered in the differential diagnosis of patients with a pelvic mass presenting with obstructive symptoms.
- Surgical removal is generally indicated at the time of detection, as these lesions carry a significant malignant potential. However, if thyroid de-differentiation is present, our experience proves that I-131 ablation therapy proves to be a very effective management of such SCTs.

4. Images

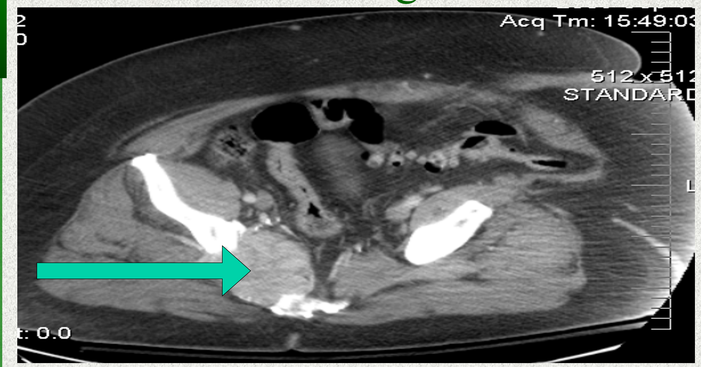
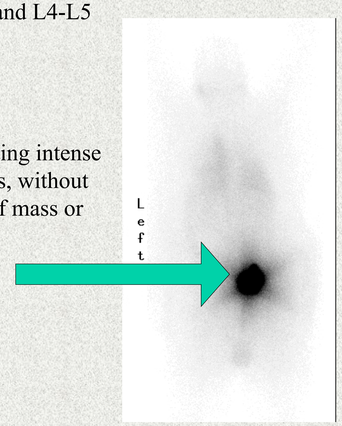


Image 1

CT of the pelvis and lumbar spine demonstrating an enhancing mass in the right sacral ala extending to the right iliac bone and severe L1-L2 and L2-L3 spinal stenosis and moderate spinal stenosis at L3-L4 and L4-L5

Image 2

I-131 whole body scan demonstrating intense i-131 uptake within the right pelvis, without any uptake in thyroid suggestive of mass or carcinoma



6. Work Cited

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