CASE REPORT

Pigmented pseudotumor of the testis: a unique testicular and para-testicular mass

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We report on the case of a 24 year old male with a testicular and paratesticular melanin-like, pigmented lesion. This is the first report of this type of lesion which we have designated a pigmented pseudotumor.

Key Words: testicular tumor, paratesticular tumor, pigmented tumor

Case report

A 24 year old presented with a one year history of a tender right hemi-scrotum. He denied any history of trauma to the area and had no other symptoms attributable to his genito-urinary system. He had no manifestations of a systemic illness and his past medical history was unremarkable. He fathered a son 4 years previously. He had had no previous surgical procedures, was on no medications and had no allergies. Physical examination of his chest and abdomen were within normal limits. Detailed dermatologic examination revealed no skin lesions suggestive of melanoma. Genitourinary exam revealed a normal penis, penile urethra, urethral meatus, vasa and left testicle and epididymis. The right testicle was distinctly hardened and irregular with cystic swelling of the right epididymis. Scrotal ultrasound showed a heterogeneous right testicle and a hypoechoic right epididymis. The abdominal ultrasound demonstrated a right seminal vesicle cyst and renal agenesis. Beta HCG was undetectable and alpha feto-protein was within the normal range at 3 μg/L.

On the basis of the clinical and sonographic findings it was felt that this gentleman had a germ cell tumor of the right testicle and underwent a right radical orchiectomy. Gross examination of the specimen revealed an ill-defined intra- and para-testicular dark brown to black lesion centered on the testicular hilum involving the testis proper, rete testis

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and epididymis Figure 1. The area involving the testicle measured 2.3 cm x 1.2 cm and that involving the epididymis 1.7 cm x 1.2 cm.

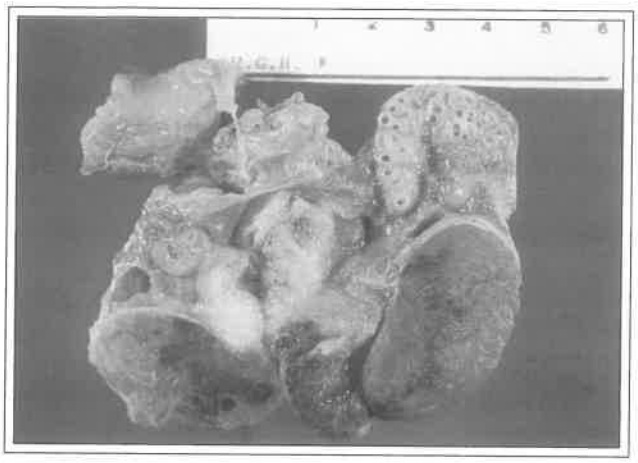

Figure 1. Orchiectomy specimen with brown to black, poorly defined intratesticular mass. Similar lesion noted in the extratesticular zone near the head of the epididymis.

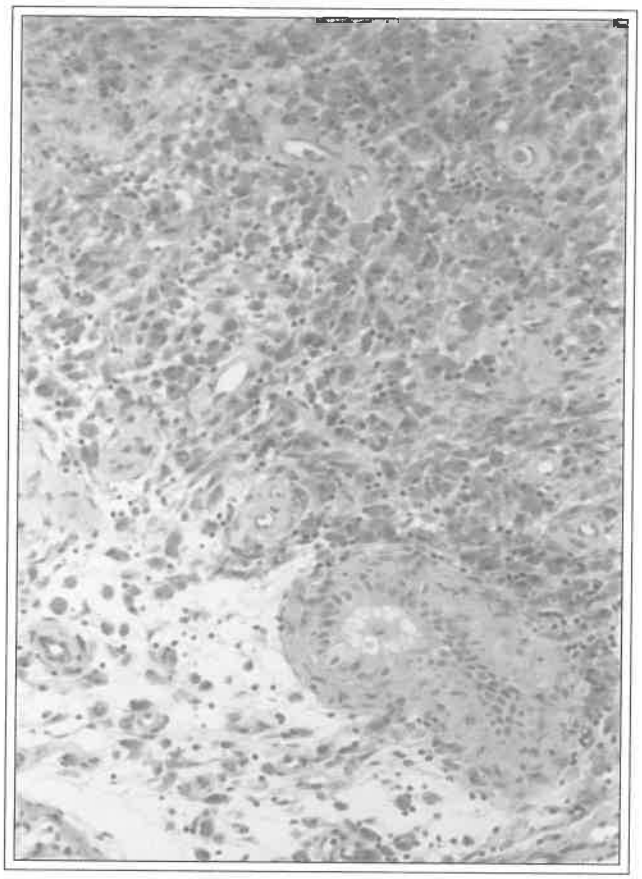

Figure 2. H and E (magnification 35X). Mixed interstitial mononuclear cell infiltrate composed predominantly of large histiocytes.

Microscopic examination revealed an accumulation of relatively large mononuclear cells with uniform nuclei and an abundance of an intracytoplasmic brown-black pigment Figure 2,3. These cells were distributed within the interstitium of the testis, rete testis and epididymis. The immunohistochemical stains showed that the major large cell component stained negatively for keratin, epithelial membrane antigen, leukocyte common antigen, HMB45 and neuron specific enolase. The pigment had the staining properties of lipofuscin with positivity for both Schmorl and Fontana reaction. In addition, there was intracytoplasmic pigment in keeping with melanosis in the rete and epididymal epithelium. The pigmented cells in areas were admixed with chronic inflammation and focally there were areas with a marked degree of fibrosis. Perl's stain identified focal areas of hemosiderin deposition in the stroma. The potassium permanganate bleach preparation showed that the underlying cells were mono-nuclear with uniform nuclei with no obvious

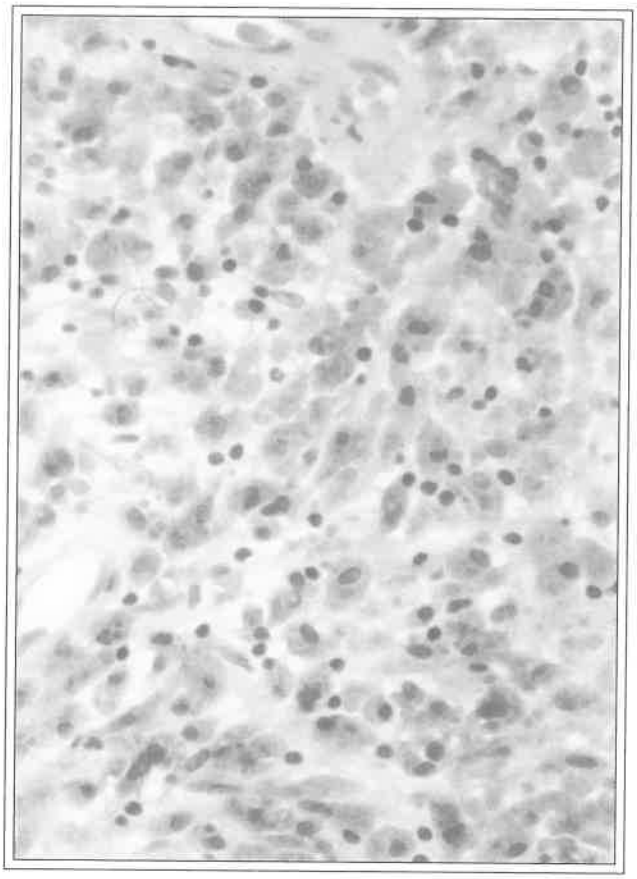

Figure 3. H and E (magnification 160X). Higher magnification revealed few histiocytes with intracytoplasmic granular pigments.

malignant features. The adjacent testicular tissue displayed focal atrophy and tubular hyalinization with minor foci of chronic non-specific inflammation. The interstitium of the epididymis also had non-specific inflammatory changes.

Formalin fixed tissue was examined under electron microscopy Figure 4. Sheets of large mononuclear cells with low nuclear to cytoplasmic ratio and electron dense intra-cytoplasmic material of varying density were seen. No convincing melanosomes or pre-melanosomes were noted.

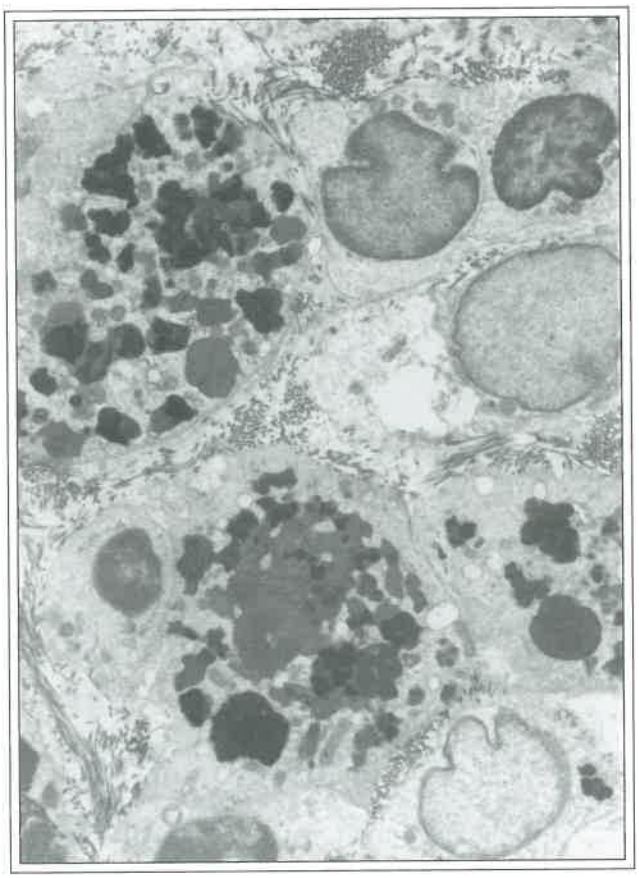

Figure 4. Electron micrograph (magnification 3 000X). Large mononuclear cells with abundant intracytoplasmic electron dense granules. No evidence of pseudomelanosomes or melanosomes are noted.

Discussion

Pigmented lesions of the testicle are exceedingly rare. The lesion reported in this case contained a lipofuscin-like pigment within the testis and epididymis. The differential diagnosis based on the pigmentation includes a regressed malignant melanoma, however, there was no evidence of cytologic immunohistochemical, melanosomes or pre-melanosomes that would support this diagnosis. Melanotic neuroectodermal tumors of infancy show a different morphology than this tumor and are almost exclusively found in infants less than two years of age (*1, 2, 3*). These features make this diagnosis similarly unlikely. The pigmentation on a background of mild chronic inflammatory changes suggests that this could represent post-inflammatory pseudotumor as a result of a previous insult e.g. sub-clinical trauma or infection. The ipsilateral renal agenesis and seminal vesicle cyst raise the possibility of an embryological origin.

In summary, this appears to be a cytologically and clinically benign tumor which has not been previously described in the literature. Clinical follow-up to 32 months has been negative with no evidence of local recurrence or systemic illness. □

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