

Case 676 -- A 73 year old male had an heart transplant

CLINICAL HISTORY

This is a 73 year-old African-American male with a history of hypertension, hypercholesterolemia, chronic renal failure with horseshoe kidney and coronary artery disease. He underwent 4-vessel coronary artery bypass graft 12 years ago and subsequently developed ischemic cardiomyopathy and recurrent ventricular tachycardia for which he had repeated ablation therapy and automatic implantable cardioverter defibrillator placement. His evaluation demonstrated B-natriuretic peptide of 1600 pg/ml and ejection fraction of 20% to 25% suggestive of congestive heart failure. The patient underwent orthotopic heart transplant with post-operative course complicated by respiratory failure, cardiac arrest and pseudomonas bacteremia but the patient eventually recovered and was discharged.

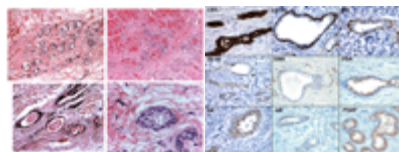
PATHOLOGIC FINDINGS

Gross Pathology of the explanted native heart

1. weight: 480 grams
2. 14.0x 13.0 x 8.0 cm with dilatation of all the 4 chambers
3. Large areas of fibrous scar in the left ventricle, significantly worse in the posterior wall
4. Moderate to severe calcific coronary artery atherosclerosis with 50-70% luminal occlusion.
5. bypass grafts anastomosed to the LAD, LCX and RCA with mild atherosclerosis
6. No discrete mass seen.

Microscopic features

H&E stain of the anterior left atrium and interatrial septum showed epithelial lined ductal and tubular structures in the epicardium and interstitium with focal vaguely lobular arrangement resembling mammary glands (A). In some areas, the microcystic structures were intimately admixed with the individual cardiac myocytes (B). Eosinophilic luminal secretion was seen in some of the glands (C). The epithelial cells were flattened to cuboidal with scant cytoplasm and round normochromic nuclei in many of the glands. Some glands, however, showed abundant finely vacuolated cytoplasm forming apical snouts, a reminiscent of pregnancy-like change (D). The biphasic arrangement of basal and apical cells was readily seen in many of the well-formed glands (D). There was no nuclear atypia or mitotic figures.



Immunohistochemical stains showed diffuse reactivity for pankeratin and CK7, and basal staining for CK5/6, p63, D2-40, and smooth muscle actin (SMA). Epithelial cells showed diffuse nuclear staining for estrogen receptor (ER). Focal staining of gross cystic disease fluid protein-15 (GCDPF-15), Prostate-specific antigen (PSA) and

prostate-specific acid phosphatase (PSAP) with the accentuation in the apical snout was noted. S100 was positive in the occasional basal cells. The epithelial cells were negative for CK20, endothelial marker (CD31), mesothelial markers (calretinin, WT-1), TTF-1, mammaglobin, Her2/neu.