Prevalence & Pathological Features of Renal Cell Carcinoma in a Tertiary Referral Center: A Surprisingly High Prevalence of the Chromophobe Type

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Objective
To study the prevalence and pathological features of chromophobe renal cell carcinoma in the middle east region using the American University of Beirut Medical Center (AUBMC) nephrectomy database.

Materials & Methods
• Retrospective review of all nephrectomies (partial or radical) performed at the AUBMC
• January 2002 until December 2012
• Total: 133 patients – 50 partial, 83 radical nephrectomies

Preoperative variables
• Age
• Body Mass Index
• Blood group
• Smoking status
• Tumor size
• R.E.N.A.L. score

Perioperative renal functional/patient outcomes
• Estimated change in GFR
• Ischemia time
• Intraoperative blood loss
• Pathological type & stage
• Fuhrman Grade
• Total operating time
• Length of hospital stay
**Results**

- Prevalence of ChRCC: 23% (31/133) vs. 5-8% in western series
- Percentage T1a lesions at presentation: 26% vs. 55% in western series
- Percent recurrence at 7 years = 3% (1/31)

**Compared to other subtypes of RCC:**

- ChRCC not associated with smoking
- ChRCC not associated with increased BMI
- ChRCC associated with:
  - Blood Group “O”: 14/31=45% (p<0.05)
  - Blood Group “B”: 11/31 = 35% (p<0.05)
- ChRCC more associated with sarcomatoid features: 4/31 = 12% vs. Clear cell RCC = 4/71= 5% (p=0.03)

**Conclusions**

- Prevalence ChRCC in the middle east: significantly higher than in western hemisphere.
  - racial disparity?
  - genetic/environmental factors?
  - referral bias?
- utility of nephron sparing surgery (38%) at our institution is high despite lower proportion of T1a lesions (26%) compared to west
- sarcomatoid differentiation is higher in ChRCC → but prognosis remains excellent