

## Case Report

# Suburothelial hemorrhage masquerading as renal neoplasms: a case report of antopol Goldman lesion

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### ABSTRACT

Renal cell carcinoma (RCC), which accounts for 2-3% of all adult malignancies, is one of the most lethal urologic cancers. They are sporadic in the majority of cases with 4-6% being familial. They are adenocarcinomas arising from renal tubular epithelial cells. They can present with symptoms of loin pain, palpable mass and haematuria. Another rare presentation is spontaneous perirenal haemorrhage which can be seen in up to 50% of these patients. These patients are also predisposed to increased risk of deep vein thrombosis (DVT) due to prevailing pro-thrombotic state. Management requires radical nephrectomy for localised disease, targeted therapy and cytoreductive nephrectomy for metastatic RCC. Our patient is adult female who was referred to surgical OPD given her history of gross haematuria and right flank pain for 6 days. She is a known case of DVT on treatment with Warfarin for 4 years. A diagnosis of renal malignancy was made, contrast CT was suggestive of solid mass lesion of the upper pole of calyx likely transitional cell carcinoma (TCC)/papillary RCC. She underwent an urgent radical nephrectomy which showed a hard 5×5 cm lump in the upper pole of the kidney, revealing a clot on the cut section. Post-op HPE showed a large subcapsular hematoma in the upper pole with microscopy showing large areas of haemorrhage surrounded by chronic inflammatory infiltrate, likely Antopol Goldman lesion notorious for its similarity to renal malignancy.

**Keywords:** RCC, DVT, Suburothelial hematoma, Antopol Goldman lesion, TCC

### INTRODUCTION

Antopol-Goldman lesions were first enumerated by Antopol and Goldman in 1948 in a series of 7 patients who underwent radical nephrectomy for suspected RCC. It presents as a spontaneous renal pelvic hematoma which is destructive in its ability to masquerade as RCC both clinically as well as radiologically. Clinical knowledge of this lesion as a differential of a renal mass lesion is of utmost importance to avoid an inadvertent nephrectomy.<sup>3</sup> To date, less than 50 case reports have been published regarding this entity in English language literature reviewed in PubMed database and likely 2<sup>nd</sup> case report from India, denoting the rarity of this clinical lesion.

We are reporting the case of a 50-year-old female, with a known case of left lower limb DVT on warfarin for 4

years, who presented with complaints of gross haematuria and right flank pain for 6 days with an unremarkable abdominal examination. Her radiological picture was classical for TCC of the upper pole calyx/RCC, so she was taken up. Because of the clinical and radiological picture, she was considered to have malignancy and was managed with an urgent radical nephrectomy. However, the post-operative biopsy report was suggestive of renal upper pole hematoma on gross examination with cut sections showing multiple areas of subepithelial haemorrhages without any evidence of malignant cells.

### CASE REPORT

A 50-year-old female was referred from the department of medicine to us with complaints of gross hematuria and right flank pain for 6 days. Hematuria was present

through the stream of urine and was not associated with dysuria, frequency or burning micturition. She also had right flank pain which was insidious in onset and gradually progressive, dull aching and non-radiating with no aggravating or relieving factors. She has had this pain on and off for the last 4 years which would get relieved with medications. She has a history of DVT of her left lower limb which was diagnosed 4 years back and is on treatment with tab. Warfarin 5 mg once daily from the time of diagnosis. No other significant past or family history was noted. On examination, pallor+ with left lower limb oedema and a few dilated veins, but no tenderness was noted in the calf. No significant findings were noted on abdominal examination.

### *Imaging findings*

Ultrasound KUB showed a heterogenous, hypoechoic mass of 4.8×4.7 cm at the interpolar region of the right kidney extending into the renal sinus with a mild focal contour bulge and internal vascularity+. CECT chest, abdomen, and pelvis (renal protocol) revealed a well-defined round to-oval iso-hyperdense solid mass lesion in the upper pole of the right kidney (epicentre in the right upper pole calyx) with average attenuation of 60 HU and no post-contrast enhancement. The lesion measures 4.6×4.6 cm in size. No other significant filling defects were noted in IVC and no evidence of any other lesions elsewhere, likely to be TCC of upper pole calyx or papillary type of RCC of the right kidney.

Her blood investigations showed severe anaemia with a hemoglobin of 6.5 and normal serum calcium levels, INR of 2.95. Urine for malignant cytology was unremarkable and all other investigations were within normal limits.

Given her history of gross hematuria, right flank pain with left lower limb DVT and concomitant renal solid mass lesion of 60 HU in the kidney, a diagnosis of RCC was made and she was planned for subsequent surgery.



**Figure 1: CT scan of a solid mass lesion in the upper pole of right kidney in sagittal and coronal sections.**

### *Intraoperative findings*

Exploratory laparotomy with transabdominal right radical nephrectomy with right paracolic drain insertion was done. A 5×5 cm hard lump was found in the upper pole of the right kidney with a single renal vein and double renal arteries identified. No other significant findings were visualized. The right kidney with the upper part of the right ureter was removed. On the cut section, there was a hematoma in the upper pole, but no significant mass was identified.

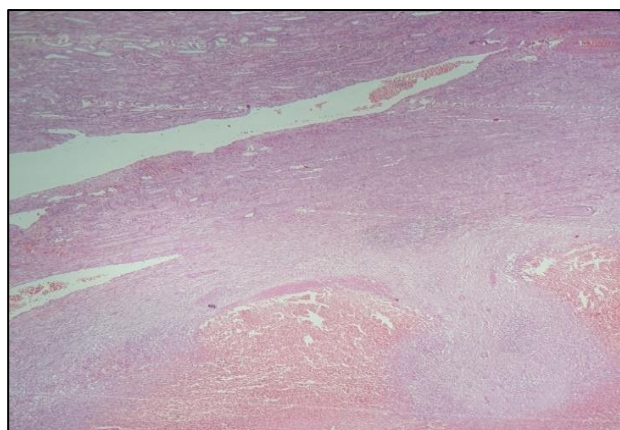


**Figure 2: Intra-op specimen of resected right kidney with right upper ureter and cut open part of right upper pole mass demonstrating hemorrhage.**

### *Postoperative course*

Post-operative HPE report revealed a large subcapsular hematoma measuring 5.3×3.5×4 cm at the upper pole on gross examination and microscopic examination of multiple sections all showed large areas of subepithelial hemorrhages with surrounding chronic inflammatory infiltrate but no evidence of malignancy was identified in any section.

The patient had no further hematuria in her postoperative period and her anaemia improved significantly with hematinic agents. She is currently doing well and has had no other complications.



**Figure 3: Post-op HPE of subepithelial hemorrhages.**

## DISCUSSION

The Antopol-Goldman lesion is a very rare presentation of renal pelvic subepithelial hemorrhages which was first described by Antopol and Goldman in 1948 in their case series of 7 patients who underwent radical nephrectomy for suspected renal malignancy.<sup>3</sup> The cause of these lesions is unclear but causes like long-term anticoagulant therapy, overuse of NSAIDs, trauma and amyloidosis could be implicated.<sup>4</sup> Patients commonly present with hematuria and flank pain.<sup>5</sup> Radiographic findings include a nonspecific mass-like lesion in the kidney with an attenuation greater than water (>10HU) and an absence of post-contrast enhancement.<sup>4</sup> There may also be associated uniform thickening of the renal pelvic wall.<sup>6</sup> However, the problem with these lesions seems to be their discrete appearance which mimics renal neoplasm and unfortunately is almost always diagnosed after a nephrectomy.<sup>4</sup>

The management of these lesions entails a conservative approach with cessation of anticoagulant use for 4-6 weeks followed by a repeat assessment for resolution of hematoma on CT scan.<sup>5</sup>

The most common cause seems to be associated with anticoagulant use with a supratherapeutic INR. This has also been demonstrated in several case reports published so far.<sup>6,7</sup>

The reasons for considering RCC for this given patient despite this known clinical entity was the presence of gross hematuria with falling hemoglobin and right flank pain on and off from the last four years increased over 6 days. We considered the history of DVT because of renal malignancy further simplified by the fact that this patient had a therapeutic INR. The radiographic picture was more suggestive of a solid mass lesion in line with RCC without any soft tissue thickening of the renal pelvis, hence we went ahead with the surgery.

Thus, this case indicates the paramount importance of knowledge of these lesions to avoid inadvertent nephrectomy.<sup>8</sup>

## CONCLUSION

Antopol Goldman lesion is a very rare entity of spontaneous non-traumatic suburothelial hemorrhages masquerading as a renal neoplastic process both clinically and radiologically but can be managed with a conservative approach depending on underlying aetiology and thus, may avoid an unintended nephrectomy.

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