Rarely, angiomyolipoma may present with venous thrombus extension raising the concern of malignant transformation. To date, there is no imaging that can differentiate between benign angiomyolipoma from liposarcoma or fat containing renal cell carcinoma. Our literature review revealed 40 reported cases to date. Upon presentation, two-thirds (27/40) of these patients were symptomatic with flank pain as the most common symptom. The mean age group affected is 45-year-old with a female predominance (male/female = 7/32). Moreover, there were three reported cases of angiomyolipoma that progressed into the inferior vena cava during pregnancy. These findings would suggest that angiomyolipoma can be hormonally influenced. Furthermore, the average affected size was 9.2 cm suggesting that large tumors increase the risk of vascular invasion. In addition, bilateral and multifocal tumors were reported in 32% of cases (13/40). In keeping with Schade literature review, we did not find any association between tuberous sclerosis and the risk of developing intravascular invasion.

As the field of Robotic surgery in the urology practice in gaining a wide spread. Robotic-assisted radical nephrectomy for renal masses with IVC thrombus seems to be a good and safe alternative to conventional open and laparoscopic approach. However, more studies are needed to assess further safety.

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Angiomyolipoma (AML) is generally considered a benign solid lesion, composed mainly of adipose tissue, dystrophic vessels, smooth muscles, and lack of epithelial component. AML has been reported to extend into the renal vein or vena cava leading to surgical intervention to exclude malignant potential in addition to removing the risk of fatal cardiopulmonary embolism leading to death.

Though AML is a benign lesion, there have been reports of malignant transformation. These lesions must be carefully interpreted when seen on CT scans, as carcinomas may contain fat as well and inflammatory conditions such as pyelonephritis, perinephric abscesses can also mimic AML appears on imaging. The optimal treatment for AML lesions that have extended into the vessels is radical nephrectomy and tumor thrombectomy.
Since the development of robotic surgery in urology, numerous centers are adopting various surgical techniques with robot assistance.\[4,5\]

With these advancements in technology and increasing skills of surgeons in using the robot for various urological procedures, the treatment of AML lesion which extends into the vessels is a logical next step in its development. In fact, Patel et al. have reported a case of partial nephrectomy of an epithelioid-AML lesion with successful outcomes in a young lady.\[2\]

The increased hand–eye co-ordination and precise movement of the robotic arms, coupled with the endowrist technology and 3D high definition screens, have made nephrectomy procedures using robots feasible and safe.\[2,4,5\] These features also allow for the surgical thrombectomy of the lesion from inside vessels, allowing precise suturing.

Numerous studies have shown a decreased hospital stay and quicker convalescence in patients that underwent robotic donor nephrectomy compared to both open and laparoscopic approaches.\[6\] Nonetheless, patients that present with vascular invading lesions need to be surgically operated on; the risk of death due to an embolic event necessitates this. While open nephrectomy is established and is the gold standard of treatment for renal cancers, the rapidly increasing skills in the use of robotics with the increased dexterity of the arms leading to precision surgery can potentially provide a safe alternative with less morbidity in patients with vessels invading AML.\[6\]

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