

# BEWARE OF VARIOCELE

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## INTRODUCTION

A varicocele is an abnormal dilation of the spermatic veins or the pampiniform plexus, usually extending to the internal spermatic vein (ISV) and the left renal vein. The incidence of varicocele is 10% in all men but up to 40% in infertile men. The left side is involved in 70-100% of cases, the right side in 0-10% and both sides in 0-20%. Clinically, the ISV drains into the left renal vein on the left side and into the inferior vena cava on the right. Collateral drainage from the ISV may also be via perirenal, lumbar and visceral collaterals; other collaterals include the external pudendal, vassal and cremasteric vessels<sup>(1,2)</sup>.

## CASE REPORT

A 41-year-old man was referred to the andrology clinic with symptoms of erectile dysfunction and scrotal discomfort. Clinical examination revealed recent onset of a left varicocele. Urinalysis was normal as were routine biochemical profiles including testosterone hormones. Ultrasound and CT scans of the abdomen confirmed an 8cm left lower pole renal tumour with the left renal ureter clear of tumour, but a CT scan showed a large number of collaterals in the perirenal space, near the hilum (Figure). During surgery a number of large tumour collaterals were seen to the testicular vein, thereby increasing the testicular venous pressure. Pathology confirmed the tumour as being T2 renal cell carcinoma.



Left renal tumour with abnormal perirenal vessels leading to high pressure left varicocele.

## PATHOGENESIS

Most varicoceles are idiopathic. Some hypotheses to explain the primary varicocele are:

- lack of venous valves
- nutcracker syndrome
- abnormal angle of entrance into the left renal vein.

All of these would increase the hydrostatic pressure in the ISV.

The secondary varicocele are from neoplasms, which either occlude the venous drainage or produce high-pressure flow into the ISV<sup>(3)</sup>. These mainly occur in middle age or beyond. The frequency of renal cell carcinoma (RCC) has been reported to be 1-10%<sup>(4,5)</sup>.

## REVIEW OF THE LITERATURE

A number of cases has been described in the literature, in which varicocele has been the presenting feature for renal cell carcinoma.

A comparative study of 204 cases of RCC by Seemann *et al* found a mean tumour size of 8.4cm and found that 25% of all tumours caused renal vein occlusion; 4.5% of all cases had left side symptomatic varicocele with invasion of the left renal vein by the tumour<sup>(5,6)</sup>. Aga *et al* reported two cases of RCC with symptomatic varicocele and both had a gigantic arterio-venous fistula at the tumour site, causing an elevated venous pressure<sup>(7)</sup>. The pathogenesis of varicocele associated with RCC has been thought to be due to obstruction of the testicular vein by the tumour; however, the elevation of testicular venous pressure could be the trigger mechanism by which varicoceles develop<sup>(8)</sup>. Two case reports from Germany highlight that symptomatic varicocele in cases of renal tumour could be due to flow impairment in the testicular vein but are more likely to be due to collateral circulation<sup>(9)</sup>.

## CONCLUSION

Patients with RCC often have non-localizing features. Since 40% of patients do not have genito-urinary symptoms, care must be taken to avoid being misled by normal findings on urinalysis. More than 50% of patients with RCC have vague symptoms and 1-10% present with symptomatic varicocele. All patients with recent onset of symptomatic varicocele must be evaluated with investigations.

## REFERENCES

- 1 Marsman JWP. The aberrantly fed varicocele frequency, venographic appearance and results of embolisation. *Am J Radiol* 1994;164:649-657
- 2 Lenz M, Hof N, Kersting-Sommerhoff B, Bautz W. Anatomic variants of the spermatic vein. *Radiol* 1996;198:425-431
- 3 Masuda F, Sasaki T, Machida T. Extrarenal manifestations of renal cell carcinoma. *Jikeikai Med J* 1979;26(3):159-172
- 4 Roy CR, Wilson T, Raife M, Horne D. Varicocele as the presenting sign of an abdominal mass. *J Urol* 1989;141(3):597-99

5 Gibbons RP, Monte JE, Correa R Jr, Mason JT. Manifestations of renal cell carcinoma. Urol 1976;???:201-6

6 Seemann R, Wimmer B, Rau W. Value of angiography, sonography and urography in the diagnosis of renal tumours. A comparative study. Radiol 1983;23(2):76-84

7 Aga Y, Takigawa H, Imagawa A. Two cases of renal cell carcinoma with complications of varicocele: the pathogenesis of varicocele. J Clin Urol 1979;33(9):901-904

8 Kontani K, Mizoguchi H, Nukui F, Kurokawa J, Nagata M, Fukui J. A case of left renal cell carcinoma in a young male adult with left varicocele. Hinyokika-Kiyo 2000;46(5):323-5

9 Gieseler B. Pathogenesis of symptomatic varicocele in kidney tumour. J Urol Nephrol 1984;77(10):585-87

## Book Review

### *A Country Doctor's Notebook*

Mikhail Bulgakov

Harlan Davidson 1995 (paperback)

ISBN 1860461654

Mikhail Bulgakov qualified as a doctor from Moscow University in 1916. The Russian house officer in those days was required to spend a year in the country, honing his skills and developing clinical expertise in seemingly every branch of medicine.

This series of short stories, part autobiographical part fictional, is a recollection of Bulgakov's experiences as a young inexperienced doctor in pre-revolutionary Russia.

The setting for the stories is the vast countryside of Russia where each episode seems to involve wolves, blizzards and dark nights. The isolation is total '32 miles from the nearest electric light'. Eventually the enormous responsibility must have taken its toll on such

professionals and can be seen in the tale named 'Morphine'.

The stories are beautifully written and any doctor can empathise with some of the clinical dilemmas that he must have faced in his isolation.

Bulgakov spent the revolution in Kiev where he wrote 'White Guard'. He was later a playwright at the Moscow theatre during the 1920s and 30s. His seminal novel 'The Master and Margarita', written as a satire of Soviet life, was suppressed under the Communist regimes until its publication and translation in the 1950s.

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