

PATHOLOGICAL FINDINGS IN URETHRAL DIVERTICULUM AND POSSIBLE PATHOGENESIS OF URETHRAL DIVERTICULUM CANCER

Hypothesis / aims of study

Female urethral diverticulum is an uncommon finding in clinical practice that invariably presents with non specific symptoms such as frequency, urgency and dribbling. Urethral diverticulum cancer is even rarer. We have reviewed the pathology of excised diverticula to try and determine the pathogenesis of urethral diverticulum cancer.

Study design, materials and methods

The pathological reports on all 75 women of mean age 46 years (range 23–77) having excision of female urethral diverticulum between 2006 –2015 were reviewed. The pathological features of their diverticulum were correlated with MRI +/- operative appearance.

Results

61 women (80.8%) had a palpable diverticulum on examination. T2 MRI pelvis was performed pre-operatively in all 75 and the urethral diverticulum was visualized in 74 (99%). The diverticulum not visualized on MRI was noted to be a 30mm transverse diameter simple configuration diverticulum at surgery.

Median diverticulum size on MRI was 30 mm transverse (range 4–47 mm), 21 mm coronal (range 6–41) and 26 mm sagittal (range 3–42). Pathological findings and MRI configuration are detailed in table 1.

Interpretation of results

Cancer was present in 3/75 (4%) of patients having excision of urethral diverticulum. Inflammatory changes were present in 100% and metaplastic changes in 49% . These findings suggest that in urethral diverticulum chronic inflammatory stimuli induced metaplastic changes may induce carcinoma.

Concluding message

Urethral diverticulum remain a rare entity clinically, with chronic inflammation playing a major role. Chronic inflammatory changes leading to metaplasia may play an important role in possible pathogenesis of urethral diverticulum cancer.

Table 1

Pathology	MRI Configuration			
	All N (%)	Simple 15 (20%)	Horseshoe 39 (52%)	Circumferential 21 (28%)
Inflammatory Changes				
Denudation and ulceration	33 (44)	4	21	8
Acute and/or Chronic inflammation	57 (76)	15	29	13
Scarring				
Fibrosis	26 (34.6)	6	13	7
Granulation	9 (12)	0	7	2
Calcification	3 (4)	1	2	0
Other				
Stone	2 (2.7)	1	1	0
Nephrogenic adenoma	25 (33.3)	3	16	6
Metaplasia				
Non keratinising squamous metaplasia	26 (34.6)	7	15	4
Nephrogenic metaplasia	12 (16)	0	8	4
Glandular metaplasia	3 (4)	2	1	0
Neoplasia				
Clear cell cancer	1 (1.3)	0	0	1
Adenocarcinoma	2 (2.7)	1	0	1

Disclosures

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