Author's response to reviews

Title: Advances in bladder cancer imaging

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Author's response to reviews:

Dear Claire,

Thank you for your E-mail dated 1st February 2013. We accept the reviewers’ and editor’s comments and have amended the manuscript accordingly. We enclose the revised manuscript with highlighted changes. Changes made to the manuscript in response to each comment are detailed below.

On behalf of all authors,
Yours sincerely,

Dr Shaista Hafeez

Editors comments

1. Table: please include a full table legend so that it can be understood independently from the main body of text. Please also refer to the table in the Minireview. I suggest it could be mentioned after the "PET/MRI" section and before "Patient perspective".

Agree. Table legend added p18. Now reads ‘Table 1. A summary of imaging modalities and their current clinical role in staging known MIBC’.

Reference made to Table 1 in main body of text p15 para 3

2. Please confirm whether the figure and table were produced exclusively for the manuscript, or whether permission was obtained from the copyright holder to reproduce them from elsewhere.

We can confirm that both the table and figures were produced exclusively for manuscript submitted.
Reviewer's report
Reviewer: VILLERS Arnauld

Reviewer's report:

Are there some arguments to perform the imaging studies before the TURBT to avoid the artefacts and false positive or negative results?

Agree. Imaging after TURBT can be associated with interpretation difficulties. Pathological staging with TURBT remains gold standard for differentiating NMIBC and MIBC but again is associated with difficulties (p3 paragraph 2); accurate radiological correlation is important to help guide patient management but also inform disease status outside the bladder (p3 para 3). No changes made to body of text.

Specific anatomic or tumor locations may be addressed or quoted, if in the scope of this minireview.

- False positive abnormalities such as the anterior and superior part thickening of the bladder muscle (remnant urachal part) can be described at US or CT. Is MRI of interest to clarify the diagnosis?

Agree. MRI advantage over CT is global ability to identify muscle invasive and extra-vesicle disease with accuracy of over 80% (p6 para 3 and para4). No other additional information from the literature as to whether following (false) positive CT/US, MRI leads to change in diagnosis. No change to body of text.

- Urachal tumors are also best described by MRI (sequences and sagital or coronal sections).

As urachal tumours make up <1% of all bladder tumours and there is no consensus regarding diagnostic criteria which needs to include consideration of both pathological features as well as location of the tumour we have opted not to include this in our review. The rarity of the tumour means that most of literature reports retrospective cases only. No change to body of text.

Intradiverticular tumors.

Agree. Cross sectional imaging should be used in the evaluation of Intradiverticular tumors. No additional information available regarding imaging modality and sensitivity/specificity/accuracy of staging intradiverticular tumours. No change to body of text.

Page 9 : Nano particle enhanced MRI : is this technique available in routine use in most european countries?

USPIO are no longer readily available which limits the scope for further investigation and clinical application. p9 para 3 amended to reflect this.

The Minireview is well argued and referenced European Urology guidelines 2011 are not extensive on that topic. There do not need to be referenced.
Reviewer: paolo puppo

Reviewer's report:

The paper is a thoroughly review of imaging modalities for diagnosis and staging of bladder cancer. The description of the available techniques, of their accuracy and limitations is really comprehensive. Anyway it would be really useful to the reader to avoid confusion to clarify which modalities are relevant in the daily clinical practice and which are promising technology in the future perspective. According to methodologically developed guidelines (Puppo P, Conti G, Francesca F, Mandressi A, Naselli A; AURO.it guideline committee. New Italian guidelines on bladder cancer, based on the World Health Organization 2004 classification. BJU Int. 2010 Jul;106(2):168-79. doi: 10.1111/j.1464-410X.2010.09324.x. Epub 2010 Mar 23. Review.), it should be underlined that

1) 2d ultrasound is the first diagnostic procedure to perform in case of suspected bladder cancer

Agree. We have specified the importance of US in the investigation of haematuria (p4 para 3) but have now amended the sentence to read ‘It is however an important diagnostic tool in the investigation of haematuria in particular to assess large renal masses/upper renal tracts. Bladder tumours may be visualised by ultrasound but a negative test does not exclude the presence of bladder cancer’

In addition we have specified the local (UK) practice for the initial investigations for suspected bladder cancer (p15 para3).

2) cystoscopy should be a second line procedure (bladder cancer is suspected and ultrasound inspection of the bladder is negative)

Partially agree. However we believe that cystoscopy is the gold standard test in bladder cancer diagnosis and is indicated whatever the result of ultrasound to confirm findings of US. We frequently see both false positive (including misdiagnosis of median prostate lobe and inflammatory changes) and false negative results.

Main text

3) CT scan should be deserved to patients harboring high grade non muscle invasive bladder cancer, invasive bladder cancer, or suspected lesions of upper urinary tract after TUR of the lesion(s) identified by means of ultrasound/cystoscopy.

Agree. See above. The role of CT is discussed in the context of verified bladder cancer (p4 para 1, 2) and its role in initial diagnosis has been clarified (p15 para 3)
4) the other imaging modalities do not yet play yet a role in the diagnosis/staging of bladder cancer despite encouraging reports

Agree. This is outlined after each modality is discussed and specified in the summary box (table 1). No further change made to body of the text.