Appendix 6. Computerised Tomography in Staging Testicular Cancer

Contrast enhanced computerised tomography (CECT) is the most sensitive means to evaluate the thorax, abdomen, and pelvis for TC staging [1]. Contrast enhanced computerised tomography is recommended in all patients for staging before orchidectomy but may be postponed until histopathological confirmation of malignancy.

The size of metastases should be described in three dimensions, or at least by the greatest diameter. For abdominal staging, a recent systematic review (SR) reports a median sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy with CECT of 67% (range 37-100%), 92% (range 58-100%), 87% (60-100%), 73% (67-100%) and 83% (range 71-100%), respectively [1]. Sensitivity decreases and specificity increases with increasing lymph node cut-off size. With nodes > 4 mm pooled sensitivity and specificity are 93% and 58% respectively, whereas for nodes > 10 mm sensitivity is 37% and specificity increases to 100% [1]. Using a 10 mm short-axis lymph node diameter as a cut-off yielded a high specificity (97%), a moderate sensitivity (59%) and false-negative rate of 20% in the retroperitoneum [2]. The expected patterns of nodal spread in TC should be considered when evaluating small and borderline nodes. Given the lack of a validated consensus a short axis of 8mm is usually recommended to consider a node suspicious providing a similar sensitivity and specificity of around 70%. However, given the frequency of micrometastatic lymph nodes the expected patterns of nodal spread in TC should be considered when evaluating small and borderline nodes.

Chest CT was evaluated in three studies in a SR and [1] presents a median sensitivity, specificity, PPV, NPV and accuracy of 100% (range 95-100%), 93% (range 89-97%), 68% (range 25-84%), 100% (range 99-100%) and 93% (range 91-97%), respectively. A CT of the chest is more sensitive but less specific than chest X-ray (CXR) in thoracic staging. Nevertheless, potential harms of chest CT imaging in low-stage seminoma should be taken into consideration [1]

In patients with masses (< 2 cm) in the retroperitoneum or chest and negative tumour markers, restaging after six to eight weeks rather than treatment initiation is advisable (See sections 7.2.2.1 and 7.2.2.2).

References

1. Pierorazio, P.M.*, et al.* Performance Characteristics of Clinical Staging Modalities for Early Stage Testicular Germ Cell Tumors: A Systematic Review. J Urol, 2020. 203: 894.
2. Leibovitch, L.*, et al.* Improved accuracy of computerized tomography based clinical staging in low stage nonseminomatous germ cell cancer using size criteria of retroperitoneal lymph nodes. J Urol, 1995. 154: 1759.