

 TESTICULAR CANCER

Serum miRNA predicts viable postchemotherapy lesions

“ a combined miR-371a-3p–miR-373-3p signature was able to identify viable GCT with 100% sensitivity ”

Serum levels of microRNAs (miRNAs) are significantly associated with the extent of residual disease after chemotherapy and might have utility as a clinical biomarker, according to data published in the *Journal of Urology*.

Leão and colleagues measured serum levels of three miRNAs (miR-371a-3p, miR-373-3p, and miR367-3p) in 82 patients who had undergone orchiectomy, chemotherapy, and postchemotherapy retroperitoneal lymph node dissection (pcRPLND). Serum miRNA levels were compared with the patients' clinical characteristics and serum tumour markers, and were correlated with the presence of viable residual tumour, fibrosis, necrosis, or teratoma after therapy. As 40–45% of postchemotherapy residual lesions harbour teratoma and 10–15% contain viable chemorefractory germ cell tumour (GCT), a marker to predict whether RPLND is required would have considerable clinical utility; 40–50% of lesions contain only necrotic or fibrotic tissues and do not need to undergo RPLND.

Serum levels of the miRNAs were able to predict the presence of viable residual disease

after treatment: those patients harbouring fibrosis, necrosis, or teratoma demonstrated a significant decline in all three miRNA levels after chemotherapy, whereas levels in those with viable GCT changed very little. Use of a combined miR-371a-3p–miR-373-3p signature was able to identify viable GCT with 100% sensitivity and 58% specificity, and in a subgroup of patients with a residual retroperitoneal mass ≤ 3 cm, a signature of negative miR-371a-3p alone indicated the absence of viable GCT.

The authors concluded that miRNA levels responded to chemotherapy and displayed a high discriminative capacity to predict presence of viable residual disease.

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ORIGINAL ARTICLE Leão, R. et al. Serum miRNA predicts viable disease post-chemotherapy in testicular non-seminoma germ cell tumor patients. *J. Urol.* <https://doi.org/10.1016/j.juro.2018.02.068> (2018)

FURTHER READING Murray, M. J. et al. The present and future of serum diagnostic tests for testicular germ cell tumours. *Nat. Rev. Urol.* **13**, 715–725 (2016)