Outcomes of incomplete thrombectomy in Wilms tumour with Intravascular extension – A Commentary

Tristan Boam[1], Bethan Rogoyski[2], Melissa Gabriel[3], and Paul Losty[4]

[1]Leicester Royal Infirmary
[2]De Montfort University
[3]Norfolk and Norwich University Hospitals NHS Foundation Trust
[4]Alder Hey Children's NHS Foundation Trust

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Tristan Boam[1], Bethan G Rogoyski[2], Melissa Gabriel[3], Paul D Losty[4]

1. Department of Paediatric Surgery, Leicester Royal Infirmary, Leicester, UK
2. Leicester School of Allied Health Sciences, De Montfort University, Leicester, UK
3. Department of Urology, Norfolk and Norwich Hospital, Norwich, UK
4. Alder Hey Children's Hospital NHS Foundation Trust, School of Health and Life Science, University of Liverpool, UK

Corresponding author

Mr Tristan Boam

Department of Paediatric Surgery, Leicester Royal Infirmary, Infirmary Square, Leicester, LE1 5WW, UK

tristanboam@doctors.org.uk

+447708825281

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Dear Editor,

A recent meta-analysis study exploring Inferior Vena Cava (IVC) thrombus viability following chemotherapy in Wilms tumour (WT) found thrombus non-viability in some 50% of cases.[1] The risks of IVC thrombectomy should therefore be weighed against the potential outcomes of incomplete resection.

Surgeons attempt thrombectomy with reportedly good outcomes with relatively few studies alleging thrombus left in situ.[2–5] However, where full extirpative resection is considered unfavourable, disease is upstaged with adjuvant caval irradiation mandated by current UK WT and COG guidelines. It is currently unclear whether this strategy achieves sufficient disease control to make caval surgery unnecessary. Highlighting this dilemma, non-viable thrombus was found in 5 of 7 of Ritchey's 1993 NWTS patients receiving pre-operative radiotherapy compared to malignant thrombus after 10 weeks neoadjuvant chemotherapy and radiotherapy in Renaud's single case.[6, 7]

Extirpative surgery for IVC thrombus carries potentially lethal risks. In the UK WT3 study, 8 cases of significant bleeding with three associated case fatalities were recorded.[8] Fatal haemorrhage following attempts to resect an adherent hepatic vein thrombus has also been described.[9, 10] These reports are likely an underscored representation of the true incidence of major haemorrhage.

A concern of incomplete thrombectomy is increased danger of relapse or recurrence in the vascular or thoracic compartments, however extent of risk remains contentious.

In a meta-analysis we presented 8 reports on the recorded outcomes of incomplete resection. Of two studies (n=5[11], n=6[12]) authors reported individual incidences of pulmonary[11] and peritoneal relapse,[12] whilst 3 publications showed lung metastases (n=4/13)[13]; relapse (n=2/18)[2]; and mortalities from progressive disease (n=6/10)[5] following incomplete resection. A single study reported 2 sudden deaths which were not clearly linked to known residual thrombus.[4] Loh et al postulated that complete IVC occlusion is a better predictor of adverse physiological outcome than completeness of thrombus resection,[14] Imle reported a good outcome for their single case of incomplete resection of extensive thrombus.[3] Since our original publication, IMPORT has reported outcomes of patients with intravascular extension. Tumour-related deaths and most relapses were associated with viable thrombus with macroscopic incomplete resection. Event-free survival was worse, but overall survival was unaffected when associated with incomplete thrombectomy.[1, 15]

It is crucial that we evaluate risks and benefits to patients and families when considering aggressive oncological surgery. Future studies are obligatory to establish if incomplete resection and adjuvant chemoradiotherapy are preferable to thrombectomy in complex cases. A surgeon led co-operative trial may provide a definitive answer.

Conflict of interest

The authors declare no conflict of interests

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