Service Priorities and Programmes

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Venous malformation and localized intravascular coagulopathy in children

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Introduction

Localized intravascular coagulopathy (LIC) has been described in adults with venous malformation (VM) but rarely reported in children.

Objectives

This study aims to determine the prevalence of LIC in children with VM and associated risk factors.

Methodology

Patients aged below 18 with VM from 2010 to 2014 were reviewed. Diagnosis was confirmed by Doppler ultrasound and/or Magnetic resonance imaging. Demographics data and VM characteristics including volume, site, extension, painful symptoms, palpable phleboliths were studied. Plasma D-dimer level above 500ng/L was considered as abnormal. Non-parametric Mann-Whitney U test and Fisher exact test were performed for statistical significance.

Result

Twenty-four children were recruited, 8 were boys. Median age of presentation was 9 months (range 0-12 years). Head-&-neck VM occurred in 17 patients (70.8%) and 3 (12.5%) had multifocal lesions. Seven patients (29.2%) had VM volume more than 10ml. Five patients (20.8%) had painful symptoms. Palpable phleboliths were found in 2 patients. Plasma D-dimer was raised in 8 cases (33.3%). One patient with Klippel-Trenaunay syndrome (KTS) had D-dimer level of 5000ng/ml. Raised D-dimer was found in 23.5% of small VM (volume < 10ml) and 57.1% of large VM (p=0.167). D-dimer was significantly raised in multifocal VM (p=0.028) and showed increase trend in lesions with palpable phleboliths (p=0.101). Fifteen patients had sclerotherapy performed. Peri-operatively, bolus intravenous fluid and mannitol was given. All patients had VM volume reduction after sclerotherapy. There were no major thrombo-embolic complications.