Introductions
The options for improving systemic oxygenation in patients with complex cyanotic congenital heart disease (CCCHD) are a PDA stent, an atrial-septal stent, Glenn shunt, BT shunt or creation of an aorto-pulmonary connection. Creation of a peripheral arterio-venous fistula (AVF) is an infrequently employed option, which increases pulmonary blood flow by 600-1300%. It has been shown to be safe, can improve symptoms, haemoglobin and O₂ sats.⁴⁻⁷

Methods
This is a retrospective analysis from a large UK congenital centre, describing 4 patients with CCCHD, who had previously undergone palliative surgery creating a bi-directional or classic Glenn shunt. All patient had an AVF fashioned in the last 6 years for progressive dyspnoea, fatigue or cyanosis. The mean follow-up duration was 28 months post AVF and haemoglobin, O₂ sats and NYHA were recorded at clinic follow up.

Results
One patient received a brachio-cephalic AVF and all others a brachio-basilic AVF. Three patients had a sustained symptomatic improvement, with a corresponding increase in O₂ sats, decrease in haemoglobin and in NYHA class. Complications were reported in two patients, including ventricular overload* & arterial steal syndrome^ and in both cases, the AVF needed to be revised or banded to restrict flow.

Conclusions
An AVF is a consideration for symptomatic patients with CCCHD and limited treatment options. In this small case series, an AVF may improve systemic oxygenation/symptoms. Although, this is a relatively simple, low risk intervention, there are potential risks. It is difficult to predict those who may benefit or may experience complications from this intervention.

Errors