

TRANSCRANIAL DOPPLER SCREENING PROGRAMME IN CHILDREN AND ADOLESCENTS WITH SICKLE CELL DISEASE: EXPERIENCE IN A DISTRICT GENERAL HOSPITAL IN THE UK.

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Background and aims

Surveillance programs through annual transcranial Doppler (TCD) to prevent stroke in children and adolescents with Sickle Cell Disease (SCD) are a standard of care. However, across the world, screening is inadequate, with rates between 22-44% of eligible children in the United States being screened; there are no European data on feasibility or adherence to the screening program.

We aimed to investigate the feasibility of TCD screening program according to the Stroke Prevention Trial in Sickle Cell Anaemia (STOP) criteria, and screening rates, in a district general hospital (DGH) in the UK.

Methods

Eligible children underwent local TCD screening as a tertiary paediatric support program from Oxford University Hospital. A dedicated specialist nurse liaised with children and families through home and school visits, facilitating attendance. Patients' clinical details, TCD time-averaged mean of the maximum velocity (TAMMV) and screening outcomes were recorded at each visit.

Results

All 49 eligible SCD children attended the screening program (100% rate) between 2016 and 2019; they were classified as per Table 1 and treated accordingly.

Table 1

	NORMAL TAMMV<170 cm/s	CONDITIONAL TAMMV 170-199 cm/s	HIGH RISK TAMMV>200 cm/s	INCONCLUSIVE
PATIENTS (%)	32(65)	11(23)	5(10)	1(2)
MEAN AGE (SD)	7.49(5.11)	6.18(3.22)	7(3.24)	2
MEAN TAMMV (SD)	113.48(16.60)	175.73(5.83)	203(4.24)	Not applicable

Conclusions

TCD screening for SCD is feasible at a UK DGH, with risk stratification close to the STOP trial recommendations. Specialist nurses working in the community have a critical role in promoting compliance to the program.