

Impact of Clinical Follow-up and Diagnostic Testing on Intervention for Tetralogy of Fallot

Aswathy Vaikom House, David A Danford, Rimsha Hasan, Robert Spicer and Shelby Kutty, University of Nebraska College of Medicine and Children's Hospital and Medical Center, Omaha, NE

Background

Even after initial successful surgery, tetralogy of Fallot (TOF) may benefit from further medical, surgical, or catheter-mediated intervention (INT). Many tools are available to identify when INT would be helpful, but the yield of each is uncertain. We evaluated yield of tools commonly advocated for TOF surveillance.

Methods

All patients (pts) with TOF seen from 1/08 to 9/13 in an academic children's hospital practice were studied. Demographics and prior INT history were recorded at 1st outpatient visit. At this and each subsequent visit, the use of tools: history & physical (H&P), electrocardiogram (ECG), Holter monitor (HOL), echocardiogram (Echo), magnetic resonance (MR) and stress testing (STR) were noted. Recommendations for INT and for time to next follow-up were recorded. Rationale for each INT with attribution to 1 or more tools was identified.

Results

There were 213 pts (mean age 11.5 yr), 130 male, 35 with syndromes, and 20 with pulmonary atresia. Of 916 visits, 123 (13.4%) were associated with 138 INTs (47 surgical, 54 catheter-mediated, and 37 other medical). Recommended follow-up interval was 9.4 ± 6 months, 4-12 month range. Tools were applied as in table.

Tool	N	% of visits tool applied	Tool attributable INTs	% total INTs attributable to tool	Total attributable INTs per tool application (%)
H&P	916	100	58	47	6
Echo	652	71	66	54	10
HOL	188	20	14	11	7
ECG	137	15	2	2	2
MR	129	14	37	30	29
STR	101	11	11	9	11

Conclusions

INTs are common in TOF, but when visits average every 9 mo, most visits do not result in INT. After H&P, Echo was the most commonly applied tool. INTs were most often attributable at least in part to H&P, Echo and MR. Risk stratification may be possible, and could result in more efficient surveillance and targeted testing.