**THE MOST COST EFFECTIVE APPROACH TO RISK ASSESSING PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME**

**C.S. Snyder**

The Congenital Heart Collaborative, Case Western Reserve University, Cleveland OH, USA

Wolff-Parkinson-White syndrome (WPW) is a conduction abnormality that results in sudden death due to rapid conduction down the accessory pathway during atrial fibrillation (AFib). The purpose of this study was to identify the most cost effective approach to risk assessing WPW patients.

*Methods*: A cost effectiveness analysis was performed using a decision tree model (TreeAge Pro software) comparing aVPE patients undergoing a transvenous electrophysiology study (TVEPS) vs. step wise risk assessment consisting of exercise stress test(EST), transesophageal electrophysiology study (TEEPS) and TVEPS if risk could not be determined. A TEEPS followed EST when VPE did not disappear in a single beat and TVEPS followed TEEPS when not effective inducing Afib or was risky (shortest preexcited RR interval < 250 msc). Efficacy of EST was 15% and the ability of TEEPS at inducing Afib was 88%; with 78% having no risk (published results.) Sensitivity analysis investigated the impact of changes in the efficacy assumption on the cost effectiveness results. Costs were 2009 Medicare reimbursement rates with cost of EST $ 277, TEEPS $990, and TVEPS $4035.

*Results*: The step wise approach involving EST, TEEPS and TVEPS when necessary is the most cost-effective method of identifying aVPE patients at risk with an expected cost of $2,174 compared to $4,035 for those initially undergoing TVEPS. Combining efficacy and cost data on these patients, this approach (EST- TEEPS - TVEPS) results in an average savings of $1,861 per patient. This step wise approach remained cost effective as long as TEEPS efficacy rate is > 31% on patients not screened out at EST.

*Conclusions*: This step wise approach (EST-TEEPS-TVEPS) is the most cost effective way to risk assessment of aVPE patient. This approach yields an average savings of $1,861 per patient.