Objective: Studies from developed countries report that low socioeconomic status is associated with greater vascular complications in type 2 diabetes. To determine association of educational status (ES), as marker of socioeconomic status, with prevalence of microvascular complications in diabetes we performed a cross sectional study.
Methods: Successive patients (n=1214) presenting to this tertiary-care diabetes centre were evaluated for sociodemographic, anthropometric, clinical and therapeutic variables. Subjects were classified into 4 groups based on years of education (illiterate 216; < primary 537, < higher secondary 312, and college+ 149). Descriptive statistics are presented. Multivariate logistic regression was performed to determine association of educational status with risk factors and vascular complications.
Results: Mean age of subjects was 52+10 yr and 55% were men. Prevalence (%, 95% confidence intervals) of various risk factors was high fat diet 14.5(12.5-16.5), low fruits/vegetables 31.8(29.2-34.4), low fibre 60.0(57.2-62.7), high salt 16.9 (14.8-19.0), physical inactivity 27.5(25.0-30.0), smoking/tobacco use 25.5(23.1-27.9), overweight/obesity BMI >25 kg/m^2 64.0(61.3-66.7), high waist size 63.4(60.7-66.1), hypertension 67.5(64.9-70.1), and any coronary or cerebrovascular disease 3.0(2.1-3.9). Microvascular disease (peripheral, ocular or renal) was in 20.7(18.4-23.0) and was significantly greater in illiterate (25.9, 20.1-31.7) and low (23.6, 20.0-27.2) compared to middle (15.0, 11.0-18.9) and high (14.7, 9.0-20.4) ES groups ($p<0.05$). In illiterate and low ES groups respectively, prevalence of smoking/tobacco use (odds ratio 3.84, 95% CI 2.09-7.05 and 2.15, 1.36-3.41); low fruit/vegetable (2.51, 1.53-4.14 and 1.99, 1.30-3.04) and low fibre intake (4.02, 2.50-6.45 and 1.78, 1.23-2.59) was greater while high waist size (0.38, 0.18-0.82 and 0.75, 0.40-1.39) and overweight (0.33, 0.20-0.53 and 0.56, 0.37-0.85) lower. Prevalence of hypertension and hypercholesterolemia was similar. Diabetes control (HbA1C >8.0) was significantly inferior in illiterate (38.0, 31.5-44.8), low (46.0, 41.8-50.2) and middle (41.0, 35.5-46.4) as compared to high (31.5, 24.0-38.9) ES subjects. In illiterate vs low, middle and high ES subjects use of more expensive medications- insulin 34.7(28.3-41.0), 30.9(27.0-34.8), 24.3(19.5-29.1) and 22.1(15.4-28.7)) and ACE inhibitors/ARBs 57.9(51.3-64.5), 53.2(49.0-57.4), 52.2(46.7-57.7) and 47.0(39.0-55.0) was significantly greater (p for trend<0.05) while use of other drugs- oral hypoglycemic and statins- was similar.
Conclusions: There is greater prevalence of microvascular disease in illiterate and low educational status diabetes patients in India. This is associated with greater prevalence of smoking/tobacco, inferior quality diet, inferior diabetes control and greater use of expensive treatments.

Congenital Heart Disease

Spectrum of cyanotic congenital heart disease in patients attending paediatric cardiology clinic of a tertiary cardiac care center

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Background: Cyanotic congenital heart disease comprises up to 25% of cases of all causes of congenital heart disease. There is lack of data about the present spectrum of congenital cyanotic heart disease in paediatric age group.The present study was undertaken to determine the spectrum of patients with congenital cyanotic heart disease in paediatric age group in tertiary paediatric cardiac care clinic.
Methods: Design: Prospective observational study. Setting: Paediatric cardiac clinic of a tertiary cardiac care center. All children of 0–18 years old with suspected cyanotic congenital heart disease were provisionally included in this study. They underwent a thorough echocardiographic evaluation and those patients who had definitive diagnosis of congenital cyanotic heart disease were included for final analysis.
Results: One hundred and nineteen children met the inclusion criteria. Tetralogy of Fallot's and its variant was the most common congenital cyanotic heart disease with proportion of about 44%. Other common malformations were double outlet right ventricle (14%), pulmonary atresia with ventricular septal defect (8%), total anomalous pulmonary venous connection (7%), d-transposition of great arteries (9%), tricuspid valve anomalies (tricuspid atresia and Ebstein's anomaly), hypoplastic left heart syndrome, truncus arteriosus, and complex congenital heart disease like single ventricle.
Conclusion: Tetralogy of Fallot's or its variants was the commonest cyanotic heart disease diagnosed in our patients. As there were a significant proportion of cases with complex cyanotic congenital heart disease, so paediatric cardiologists should be familiar with the diagnosis and management of all these complex congenital malformations of heart.

Hybrid device closure of septal defects through a perthoracic incision using echo guidance

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Introduction: Hybrid Cardiac procedures aim at overcoming the disadvantages of Cathlab based procedures and conventional Cardiac Surgery. We propose a new approach for device closure of ASD's and Muscular VSD's using Nitinol ASD/VSD occluders through a perthoracic route.
Method: This procedure was used to close 18 ASD's and 3 VSD's in a 7 months period. Patient age range was 5 months – 45 years (Weight 7 Kg to 56 kg). The percutaneous approach for closing ASD's and VSD's in cardiac Cath lab is extremely difficult in patients weighing less than 15 KG and requires long procedure time. On the other hand, closure of ASD's and VSD's using a heart lung machine, needs long recovery period in the ICU with frequent need of blood transfusion along with full sternotomy. In the present technique the maximum ASD or VSD size was measured accurately by both TEE and TTE. Under GA, a 4 -7 cm right lateral submammary incision in 4th Intercostal space (in case of ASD) or 6-7 cm lower sternal incision (in case of VSD) was made and small incision made over RA (in ASD) and RV (in case of VSD) with Purse string control of bleeding. Transthoracic preoperative Echo using sterile Jelly and TEE was used to image the defects. A 10-14 French Checkflow sheath was then passed through the defects into LA (for ASD) and LV (for VSD). Employing Transthoracic Echo Guidance, One disc of the Double disc Occluders (sized according to ASD or VSD size) was opened in LA or LV and then other disc