

Pre-operative Risk Stratification Pathway Improves Surgical Healthcare Utilisation in Children Undergoing Adeno-tonsillar Surgery with Sleep Disordered Breathing in a District General Setting

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Background: Children with severe obstructive sleep apnoea [OSA] having adeno-tonsillar surgery are at risk of post-operative airway complications which may require intensive care. It is recommended all children undergoing this surgery should be screened for Sleep Disordered Breathing [SDB] and those with suspected OSA undergo an overnight oximetry study [OSS] to stratify surgical risk.

Methods : We introduced a pre-operative pathway of screening children with SDB for OSA [history, examination & questionnaire] with those positive for OSA undergoing an OSS. The result of the OSS was scored for OSA severity and then used to allocate children to a surgical facility. Normal OSS to A:Day Surgical Unit ; Mild OSA to B:Day Unit with on site inpatients ; Moderate OSA to C: Monitored Bed with HDU. Severe OSA or children with co-morbidities were referred to high risk OSA clinic.

Results: We carried out 642 OSS studies[2016-18]classified for OSA severity: 334 [52%] normal; 228 [36%] mild; 59 [9%] moderate and severe 21 [3%].21 children with severe OSA attended a high risk OSA clinic : mean age 4.5 years, mean weight 21 kg, 4 Failure to thrive & 2 high BMI. 12 had chest deformity, 13 mouth breathing, & 12 moderate-large tonsils. Six had investigations [ECG,CXR]. Co-morbidities were noted in 7 & 2 were referred for tertiary care. All remaining children were operated on a high risk list without significant complications. A notes audit of 135 children undergoing adeno-tonsillar surgery 2016-2018 showed 99 had SDB with 46 suspected OSA. Facility A had no intra or post-operative complications. Facility B&C desaturations postoperatively in 3 all had moderate or severe OSA. Conclusions: Screening children with SDB for suspected OSA and then stratifying their pre-operative risk using an OSS has a role in better and safe utilisation of surgical facilities for adeno-tonsillar surgery.