44253 - A 20 YEAR REVIEW OF OBSTETRIC AIRWAY MANAGEMENT AT A TERTIARY CARE HOSPITAL

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INTRODUCTION: The incidence of failed intubation (FI) is approximately 1:2230 in the general population but is thought to be significantly higher, 1:280, in the obstetrical population (1). Inability to manage the obstetric airway is a leading cause of morbidity and mortality (2). Our goal was to determine the incidence of difficult airway management (DA) and FI with general anesthesia (GA) administered to the obstetric population (EGA >20 weeks) during birth related admissions to a tertiary care obstetrical hospital and to use this data to look for associations of obstetrical and maternal variables with DA and FI's.

METHODS: Local IRB approval was obtained for this study. During 1984-2003 there were 104,051 deliveries in our institution with 3107 GA's identified. Maternal demographics, comorbidities and obstetrical variables were extracted from the Perinatal Database, which contains validated maternal and neonatal demographic variables, procedures and interventions for all births occurring in our provincial hospitals since 1980. Multiple anesthetic variables such as difficulty of airway management, laryngoscopy grade, cricoid pressure and airway adjuncts used were determined by chart review.

RESULTS: There were 2986 of the 3107 charts available and reviewed (3.9% not found). Of these, 2633 GA's with attempted ETT placement were included (353 were excluded: 254 were electively mask ventilated, 88 received neuroleptic sedation only). Of these 2633 GA's, 125 were considered DA (4.7%) and 2 FI were discovered (0.08%). Both FI's occurred during postpartum tubal-ligations within 48 hours of delivery. No FI's occurred during cesarean deliveries (CD). There were 3 maternal mortalities unrelated to anesthesia management.

Comparison of Maternal and Obstetric Variables Between Difficult and Non-Difficult Airways			
Variable	Difficult Airways (n=125)	Non-Difficult Airways (n=2508)	p
Maternal Age (years)	30.9	28.8 (n=2507)	< 0.001
Maternal Weight (kg)	81.0 (n=105)	77.7 (n=2045)	0.04
EGA (weeks)	38.1 (n=123)	38.1 (n=2457)	0.84
Nulliparous	31 (24.8%)	551 (22%)	0.44
Maternal Disease inc PIH	35 (28%)	598 (23.8%)	0.29
PIH	22 (17.6%)	346 (13.9%)	0.24
Oxytocin Induction/ Augmented	10 (8.0%)	241 (9.6%)	0.64
Attempted use of regional anesthesia prior to GA	10 (8.0%)	207 (8.3%)	1.0

Maternal age and weight were associated with increased risk of DA, but the presence of PIH, maternal disease, oxytocin usage and failed regional were not associated with higher risk of DA. Over the twenty years the CD rate increase from 19% to 26% and the GA rate per pregnancy decreased from 0.06% to 0.01%. Despite increased CD rate and decreased GA use, the rate of DA did not change over time.

DISCUSSION: The incidence of DA in parturients is approximately 1:20. Factors associated with DA included maternal age and weight. Co-morbidities, including PIH, did not increase DA. The incidence of FI for GA's administered during a delivery admission was approximately 1:1316, lower than previous reports.

REFERENCES: 1) Anaesthesia 1985;40:759-762 2) Anesthesiology 86(2):277-284