

A RANDOMIZED 2-WAY CROSS-OVER STUDY COMPARING THE EFFECTS OF CONSCIOUS SEDATION AND ANALGESIA ON EXOCRINE PANCREAS FUNCTION IN NORMAL HEALTHY SUBJECTS (HS)

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Traditional methods for pancreatic function testing are not available. A purely endoscopic collection method (ePFT) has been developed (Gastrointest Endosc 2003; 57:37-40). The effects of sedation analgesia on pancreatic secretion is not known. **Purpose:** Study effects of opiates and benzodiazepines on pancreatic function in prospective, randomized trial. **Methods:** HS underwent 1-hour secretin stimulated ePFT; randomized by computer to one of two treatments (A-sedation, B-nonsedated) in period 1 and crossed-over to the other treatment in period 2 with a minimal washout interval of 7 days. Sedation dosage determined from previously published nomogram. Ultrathin 6 mm upper endoscope (Olympus GIF-XP 160) used for fluid aspiration to improve pt tolerance. Samples aspirated every 5 min and sent for autoanalyzer measurement of $[HCO_3^-]$. Samples were grouped in four-15 min collection periods for statistical analysis. **Results:** 14 HS (7 M / 7 F) have been randomized. No statistical difference in peak $[HCO_3^-]$ or estimated bicarb output (area under curve; AUC) for the sedated or non-sedated study groups. The mean peak $[HCO_3^-]$ (meq/L, SD, range) for sedated versus non-sedated study participants was 102 meq/L (12.4, 78-125) and 106 meq/L (11.7, 87-138) respectively. The AUC for sedated and non-sedated HS was 495 versus 536 ($p=0.0986$). All (14/14) $[HCO_3^-]$ were greater than historical 80 meq/L cutpoint by 30 min. Bicarb secretion lower in later secretory phases. Comparison of collection time intervals, peak $[HCO_3^-]$ and AUC are shown in Table. There were no complications or episodes of pancreatitis. **Conclusions:** 1) Dcsages of conscious sedation used in upper endoscopy have no effect on peak $[HCO_3^-]$ or estimated total bicarb secretion (AUC) during the one hour collection period. 2) A marginal effect on exocrine pancreas function is observed during the later phases of exocrine secretion. **Clinical implication:** Endoscopic pancreatic function testing should be performed at specific timed intervals during the early phases of pancreatic secretion.

Mean Bicarbonate Concentrations in Sedated and Non-Sedated Healthy Subjects

Collection Interval (minutes)	With Sedation	Without Sedation	p-value
0-15	92	91	0.3929
15-30	99	101	0.5635
30-45	91	102	0.0159*
45-60	93	102	0.0481*
Peak Bicarbonate	106	102	0.1794
Area under Curve	536	494	0.0986

* Statistically significant differences in bicarbonate concentrations