Postoperative hypoxaemia in children undergoing elective palatoplasty

To the Editor:

We would like to report the incidence, severity and duration of early postoperative hypoxaemia in 130 infants and children, ASA grade I, aged 8 mo to 14 yr, scheduled for elective palatoplasty. The SpO₂ was measured continuously with a Datex pulse oximeter in the PAR and was recorded at 0, 5, 10, 15, 20, 30, 40, 50, 60, 120 and 180 min after arrival. Children were graded as 1) nonhypoxaemic (SpO₂ 91%); 2) hypoxaemic (SpO₂=86-90%) or 3) severely hypoxaemic (SpO₂ 85%).¹ The modified Aldrete's scoring system² was used to evaluate recovery from anaesthesia.

Compared with preoperative SpO₂ levels, mean postoperative SpO₂ of all patients breathing room air declined in the early postoperative period but gradually increased. The incidence of hypoxaemia and severe hypoxaemia on arrival the PAR, 31.5% and 10.8% respectively, gradually improved (Table). The incidence of early postoperative hypoxaemia in children undergoing Von Langenbeck palatoplasty was less (33.9% *vs* 61.9%, *P* < 0.05) than in those having combined palatoplasty and pharyngeal flap surgery. Hypoxaemia on arrival in the PAR was higher in children with surgical duration >120 min than if <60 min (25.9% *vs* 51.4%, *P* < 0.05). The incidences of early postoperative hypoxaemia in children <3 yr, 3-6 yr and >6 yr were 54.2%, 41.9% and 34.4%, respectively. There was a correlation between postoperative SpO₂ levels and recovery scores: SpO₂ (%) = 76.7 + 2.32 × recovery scores, *r* = 0.81, *P* < 0.0001. Children with

low recovery scores (6) on arrival had a higher incidence of hypoxaemia than those with high recovery scores (7-10).

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REFERENCES

- 1 Canet J, Ricos M, Vidal F. Early postoperative arterial oxygen desaturation. Determining factors and response to oxygen therapy. *Anesth Analg* 1989; 69: 207-12.
- 2 Soliman IE, Patel RI, Ehrenpreis MB, Hannallah RS. Recovery scores do not correlate with postoperative hypoxemia in children. *Anesth Analg* 1988; 67: 53-6.

Upper airway obstruction complicating SLE

To the Editor:

Systemic lupus erythematosus (SLE) is one of the immune-complex diseases characterised by organ damage related to the pathological deposition of immune complexes and consequent complement activation, and has a rare association with upper airway obstruction.

A 30-yr-old woman with SLE presented with a reduced level of consciousness grand mal seizures, hypertension and oedema of the face and neck. Control of the seizures and hypertension was achieved but inspiratory stridor developed and worsening facial swelling reduced the visibility of the oropharyngeal structures to a Mallampati class 3 view.¹ It was decided to secure the airway by intubation. The oropharynx was anaesthetized with lidocaine 10% spray and the nasopharynx with cocaine paste and pre-oxygenation was administered. An Olympus LF-1 fiberoptic laryngoscope was passed through the nasal passages and glottis and general anaesthesia was induced. A tracheal tube was then railroaded over the bronchoscope into the trachea and its position confirmed. Mechanical ventilation continued until the patient's condition had improved.

Scarpelli *et al.* described a 21-yr-old patient who had several admissions with manifestations of SLE, which settled with a therapeutic regimen of prednisone and aspirin.² He was finally admitted in a moribund state, deeply cyanosed and with marked facial oedema. Direct laryngoscopy revealed marked laryngeal oedema and intubation was unsuccessful, resulting in his death. Upper airway obstruction due to

TABLE Pre-and postoperative SpO₂ and the incidence of early postoperative hypoxaemia.

	SpO ₂ (%, Mean ±SD)	SpO ₂ 90% No. of children - incidence (%)	SpO ₂ 86-90% No. of children - incidence (%)	SpO ₂ 85% No. of children - incidence (%)
Preop	98.8 ± 0.9	0(0)	0(0)	0(0)
0 min	91.3 ± 5.2*	55(42.3)	41(31.5)	14(10.8)
5	91.7 ± 4.3*	53(40.8)	39(30.0)	14(10.8)
10	92.0 ± 4.3*	48(36.9)	35(26.9)	13(10.0)
15	92.4 ± 5.3*	38(29.2)*	28(21.5)	10(7.7)
20	93.2 ± 4.8*	32(24.5)*	25(19.2)#	7(5.4)
30	93.5 ± 4.2*	25(19.2)#	21(16.2)#	4(3.1)#
40	94.3 ± 5.2*	21(16.2)#	18(13.9)#	3(2.3)#
50	95.0 ± 4.2*	14(10.8)#	11(8.5)#	3(2.3)#
60	96.1 ± 2.1*	6(4.6)#	5(3.9)#	1(0.8)#
120	96.5 ± 1.5*	2(1.5)#	2(1.5)#	0(0)
180	96.8 ± 1.2*	0(0)	0(0)	0(0)

* *P* < 0.01 compared with preoperative SpO₂.

P < 0.05 compared with 0 min.