



Is tracheal stenosis more common and developed earlier in intubated pregnant patients?

Entübe gebe hastalarda trakeal stenoz daha sık ve daha erken gelişir mi?

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Dear Editor,

The most common factor in the development of tracheal stenosis (TS), in addition to tube size, cuff pressure, and multiple intubation attempts, is prolonged intubation⁽¹⁾. The incidence of TS after endotracheal intubation in the intensive care unit is 6-21%, but only 1-2% of cases are symptomatic⁽²⁾. The symptoms become obvious only when the tracheal lumen is reduced by 50-75%.

Although the frequency of post-intubation TS in pregnant patients in need of coronavirus disease 2019 (COVID-19)-related intubation is unclear, we can say that TS was more common in pregnant patients. During the COVID-19 pandemic, 14 pregnant patients required invasive ventilation. Four patients developed TS. Only one patient was in the second trimester, others were in the third trimester. The average ventilation time in COVID-19 patients was 17 days, and re-intubation has a high incidence in COVID-19⁽³⁾. The duration of intubation was similar to that reported in the literature, which was 10 days, and two patients were reintubate (Table 1).

TS was diagnosed in the first patient 2 weeks after discharge, in the second patient 2 months after discharge, in the third patient 3 days later, and in the fourth patient during hospitalization. The symptoms of two patients improved with endoscopic dilation, but one patient required resection-anastomosis surgery. In another patient, despite endoscopic dilation, tracheostomy was performed because of coma.

During pregnancy, elevation of estrogen levels increases transforming growth factor beta-1, which promotes the deposition of collagens and finally fibrosis. Especially in the third trimester, estrogen causes airway edema^(4,5). We postulate that when the physiological changes causing airway edema during pregnancy are combined with prolonged intubation, impaired immunity, obesity, and prone position, the development of TS may be facilitated. Complications of the prone position may occur earlier and more frequently in pregnant patients due to physiological changes.

It is debatable whether TS will occur earlier and more frequently in pregnant patients or not. However, we would like to emphasize the importance of considering TS in pregnant patients, especially those with symptoms, even if the intubation duration is very short.

Table 1. Patients' data of intubated patients (number=14)

	TS (+) (n=4)	TS (-) (n=10)
Age (years)	32±5.35	31±5.20
Gestational week (days)	216±36.61	212±33.99
Duration of intubation (days)	12±5.47	11.4±8.57
Pron position (yes)	4 (100)	8 (80%)
Reentubation (yes)	3 (75%)	1 (10%)

TS: Tracheal stenosis, Continuous data are presented as mean ± standard deviation, categorical data by frequencies and percentages

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Ethics

Authorship Contributions

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