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Title: Role of sleep endoscopy in obstructive sleep apnea syndrome

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Body: There is a limited data about role of sleep endoscopy in obstructive sleep apnea syndrome (OSAS). Aim of this study: To evaluate level, degree and shape of obstruction of upper airway in patients with OSAS by sleep endoscopy and their relation to OSAS severity. Patients and methods: Fifty consecutive patients with OSAS were prospectively enrolled in this cross sectional analytic study. All patients underwent history, a full night-attended polysomnography and sleep endoscopy. The degree of pharyngeal narrowing (grade I-IV) was evaluated at retropalatal, retroglottal and hypopharyngeal levels. Shape of pharyngeal collapse was classified into circular, lateral or antero-posterior at retropalatal and retroglottal levels. Shape of epiglottis was also observed. Results: All patients showed multisegmental levels of obstruction. Moderate OSAS had higher percentage of grade II obstruction but lower percentage of grade I at hypopharyngeal level compared to mild OSAS ($P<0.05$). Also, in moderate OSAS, tongue base obstruction was in 47.4% which was significantly higher comparing to mild OSAS (16.7%) ($P<0.05$). There was no significant difference between different grades of obstruction at all anatomical levels in polysomnographic parameters. Omega shaped epiglottis was associated with the highest apnea hypopnea index, desaturation index, lowest average and minimum O₂ level. Conclusion: Sleep endoscopy is a useful tool for assessment of level, degree and shape of upper airway obstruction during sleep in OSAS and this could be helpful in preoperative evaluation. Presence of obstruction at hypopharyngeal level or tongue base obstruction is an indicator of OSAS severity.