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Title: MDCT in tracheal stenosis assessment

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Body: Purpose. MDCT assessment of the degree and extent of tracheal cicatricial stenosis (CST) in comparison to the results of endoscopic examination and intraoperative data. Materials and methods. The research included 36 patients with postintubation CST who underwent MDCT from the larynx to the carina levels. Stenosis degree determination based on measurements performed at the level of maximal tracheal stenosis, levels above and below it. By accepted classification of the stenosis degree Grade1 CST with narrowing of the lumen at 1\3 of the diameter in 2 cases, Grade 2 (1\3 to 2\3 of the diameter) in 17, Grade 3 (more than 2\3) in 17. The distance from the proximal to distal intact tracheal wall was defined as the length of the stenosis. According to the accepted classification limited stenosis (up to 2 cm) was detected in 10 cases, extended (more than 2 cm) in 26 cases. Results: A comparative analysis showed significant coincidence in MDCT (considering the average values and deviations for groups MDCT $3,17\pm 1,37$) and intraoperative data ($3,48\pm 1,33$), and difference in MDCT ($3,17\pm 1,37$) and fiberoptic data ($2,81\pm 1,28$). As a result, in the degree of the stenosis extent assessment the correlation coefficient between MSCT and intraoperative studies was $r=0,3$ with $p=0,32$; between MSCT and fibrobronchoscopy was $r=0,36$ with $p=0,25$. In the stenosis degree assessment the correlation coefficient between MSCT and fiberoptic was $r=1,22$, with $p=0,06$ ($p=ns$); between MSCT and intraoperative data was $r=1,58$, with $p=0,02$ ($p<0,05$). The method gave sensitivity of 100%. Conclusions: MDCT with 3D-reconstruction images provides indispensable information on the degree and extent of tracheal stenosis and has higher diagnostic value compared with endoscopic examination.