

Clinical study of airway stent implantation in the treatment of patients with malignant central airway obstruction

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Background

Airway stenting is a therapeutic option for malignant central airway obstructions (MCAO) including both intraluminal and extraluminal obstructions. The objective of this study is to investigate the clinical features and results of long-term improved prognosis for MCAO patients after airway stent implantation.

Methods

A total of 98 MCAO patients after stent placement in our hospital from January 2013 to April 2020 were included in this study. The data included baseline data, clinical characteristics, laboratory test data, stent implantation data, and treatment as well as survival after stent implantation. The survival rates among individuals were compared via Log-rank tests. Potential prognostic factors were identified using multivariate Cox hazard regression models.

Results

A retrospective analysis of these cases was generated. MCAO was mainly caused by lung cancer (53/98, 54.08%), esophageal cancer (22/98, 22.45%) and thyroid cancer (3/98, 3.06%). The median survival time of participants was 5.5 months. Univariate analysis indicated that survival rate was related to primary disease, ECOG PS score, stent site, hemoglobin (Hb), albumin (ALB) and serum lactate dehydrogenase (LDH) ($P < 0.05$). The Cox risk regression model showed survival rate was significantly influenced by ECOG PS score (OR = 3.468, 95%CI = 1.426–8.432, $P = 0.006$) and stent site (OR = 1.544, 95%CI = 1.057–2.255, $P = 0.025$)

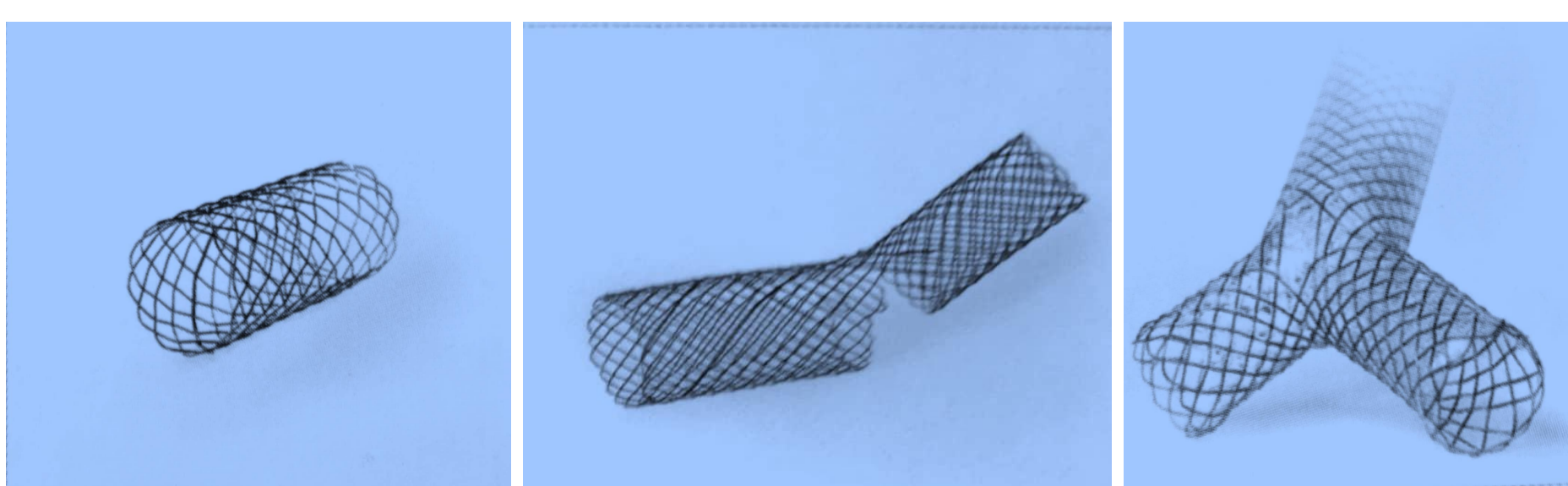


Figure1: straight, L-shaped or Y-shaped metal airway stent

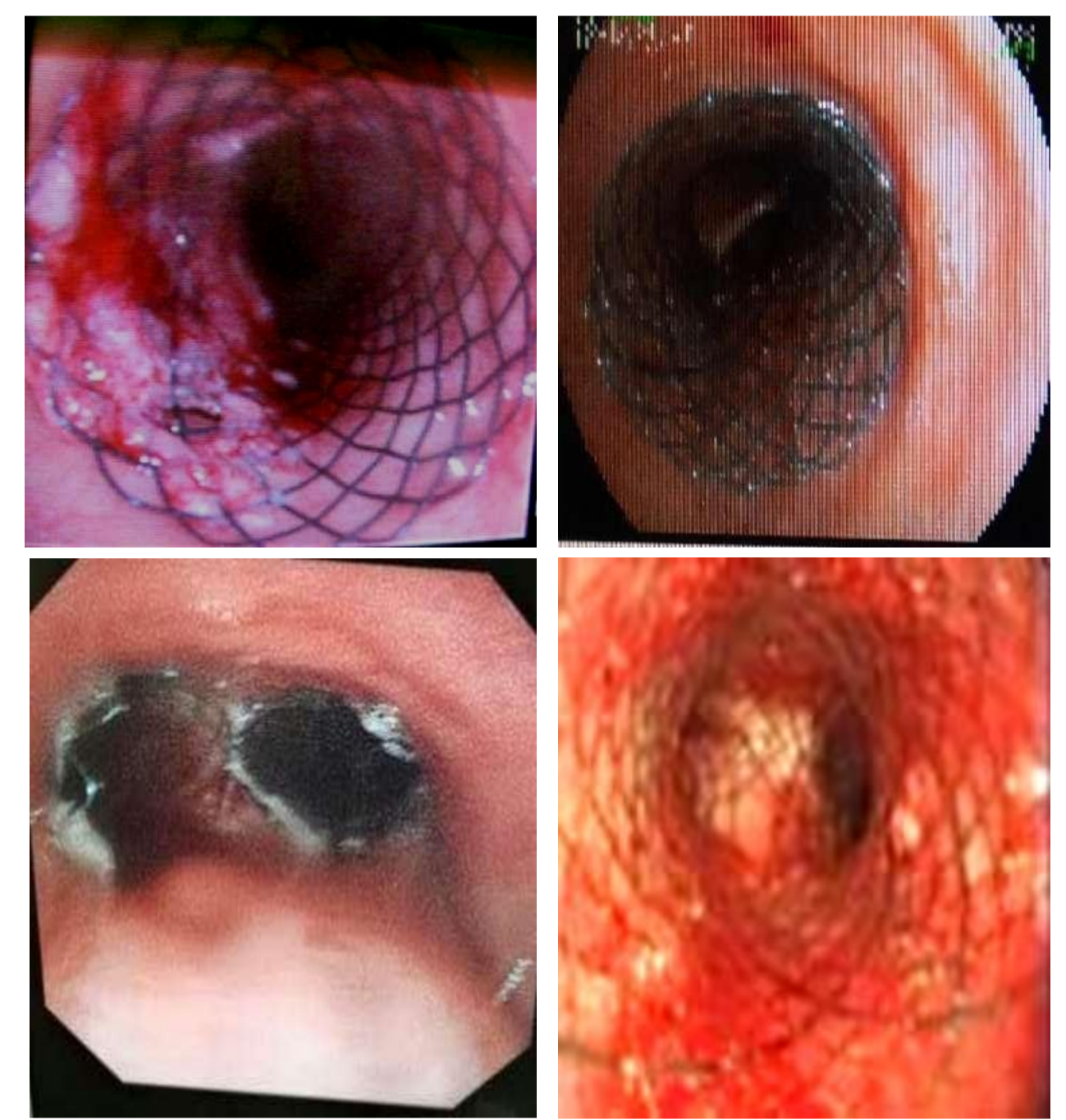


Figure2: the stent (straight, L-shaped or Y-shaped metal airway stent) was delivered to the quasi-lesion site under bronchoscope guidance.

Conclusions

In this study, A total of 98 MCAO patients after stent placement were used to investigate the clinical features and results of long-term improved prognosis.

Results from this study demonstrate a regular trend regarding the baseline characteristics, clinical figures, and survival time among patients. This will assist clinicians in the treatment of HFM patients. We established that MCAO was mainly caused by lung cancer (53/98, 54.08%), esophageal cancer (22/98, 22.45%) and thyroid cancer (3/98, 3.06%).

The median survival time of participants was 5.5 months. The survival rate was related to primary disease, ECOG PS score, stent site, Hb, ALB and serum LDH, especially to the ECOG PS score and stent site. Compared with the site of stent placement, the ECOG PS score is the prior factor in the survival rate of MCAO patients after airway stenting.

However, clinicians should be cautious when applying the results of this study in clinical practice and should consider the medical needs of individual patients.

Conflicts of Interest

None of the authors have potential conflicts of interest to declare.