

00586 **Massive bleeding as severe complication during flexible bronchoscopy: 5 cases with literature review**

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Background: Flexible bronchoscopy is widely used for the diagnosis and therapy of various types of pulmonary diseases. Concerns have been raised about its complications especially massive bleeding. Methods: We retrospectively analyzed the clinical features and emergency treatments in the massive bleeding cases in the past 7 years with literature review.

Results: From Aug 2006 to July 2013, 19078 cases were performed either diagnostic or therapeutic bronchoscopy in our department. Among them, severe bleeding occurred in 5 cases. Table 1 shows the clinical features of these 5 cases. During the emergency treatment, all cases had pre-established venous channel except case 1#, no patient got suffocated, while case 1# and 2# had hemorrhagic shock and case 1# died. When massive bleeding occurred, we laid the patient on the side of bleeding and supplied with high flow oxygen, we kept the bronchoscope vision clear and sustained suction. The transbronchial hemostasis methods we applied including locally spray 1: 10,000 noradrenaline, hemocoagulase, 4°C normal saline. Other hemostasis treatments were normal saline and pituitrin intravenous infusion, hemocoagulase intravenous injection, pituitrin intramuscular injection and emergency transfusion.

Conclusion: Though flexible bronchoscopy is a comparatively safe process for pulmonary diseases patients, massive bleeding should always be on high alert. Five key points that may save patients' lives when the massive bleeding occurs are: pre-established venous channel, laid the patient on the side of bleeding, kept the bronchoscope vision clear and sustained suction, comprehensive treatment measures and team work.

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Table 1. Clinical features of 4 massive bleeding cases.

case	sex	age (yr)	platelet ($\times 10^9$)	HBP history	site	appearance	biopsy method	diagnosis	amount of bleeding (ml)
1	F	69	238	+	RB4+5	neoformation	forcep	adenocarcin oma	1500
2	F	57	338	-	RB4+5	necrosis	forcep	tuberculosis	1000
3	F	54	244	-	LB6	neoformation	forcep	adenocarcin oma	400
4	M	65	211	-	RB4+5	Vessel?	TBNA	N/A	200
5	M	59	189	-	LB6	neoformation	forcep	squamous	150