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**Title:** Risk of intrapleural hemorrhage following thoracocentesis

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**Body:** Background: Diagnostic or therapeutic thoracocentesis is usually a simple and safe procedure. The extent to which coagulation abnormalities induced by antithrombotic therapy (ATT) increase the risk of intrapleural hemorrhage following thoracocentesis is unknown. Objective: To examine the risk of intrapleural hemorrhage following diagnostic or therapeutic thoracocentesis in patients with or without ATT. Methods: We conducted a retrospective cohort study of all the diagnostic or therapeutic thoracocenteses performed in our institution over a three-year period (2007-2009). We considered only the procedures performed without ultrasonic guidance. Antiplatelets and anticoagulant therapy at the time of the procedure were recorded. Coagulation parameters (international normalized ratio, partial thromboplastin time, platelet count) and hemoglobin level were also noted. We defined intrapleural hemorrhage as either a recurrent pleural effusion with a fall in hemoglobin >20 grams/liter, or a hemothorax necessitating pleural drainage. Results: A total of 695 patients underwent 955 thoracocenteses; data were available from 940 of them. 738 procedures (78.5%) were performed on patients on either antiplatelets or anticoagulant therapy. Overall, 7 intrapleural hemorrhages were noted (overall incidence rate: 0.7%), all in patients with antithrombotic therapy (ATT: 7/738 vs. no ATT: 0/202; Fisher's exact test: p = 0.22). Conclusion: The incidence of intrapleural hemorrhage following thoracocentesis was low. Although the event rates in patients with or without ATT were not statistically different, all intrapleural hemorrhages occurred in patients with antithrombotic therapy.