BACKGROUND: Thrombophilic diathesis may cause severe problems in cardiac surgical patients. Among these, protein S deficiency is a coagulation disorder associated with recurrent thromboembolic events. We analyzed our experience with 7 patients with protein S deficiency who underwent cardiac surgery.

METHODS: We retrospectively reviewed the clinical data, operative and postoperative courses, and the long-term results of 7 patients who were diagnosed to have protein S deficiency. Six of them were operated on using cardiopulmonary bypass, one was operated on with an off-pump procedure. RESULTS: Procedures performed were emergent pulmonary embolectomy (patient 1), aortic valve replacement and coronary artery bypass grafting (CABG, patient 2), re-CABG (patients 3 and 7), and CABG (patients 4, 5, and 6). In patients 1, 2, 3, and 7, the diagnosis was made perioperatively. Patients 4, 5, and 6 were treated with a modified regimen of warfarin or protamine. All of the latter 3 patients had an uneventful perioperative course without thromboembolic complication. At follow-up, all but 1 of the 7 patients were on continuous warfarin, and were well and without any further thromboembolic events.

CONCLUSIONS: In patients with a past medical history of thromboembolic events or with a perioperative thromboembolic complication, elaborate laboratory
investigation should lead to a definite diagnosis. For instance, patients with protein S deficiency undergoing cardiac surgery belong to a high-risk subgroup. Although rare, this and other coagulation disorders can be a critical issue in cardiac surgery. In such patients, we suggest perioperative warfarin therapy with a target international normalized ratio of 2.0 and incomplete protamine antagonism to minimize the risk of a perioperative thromboembolic event.