SURGICAL MANAGEMENT OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION IN PATIENTS WITH HEPARIN INDUCED THROMBOCYTOPENIA – 2 CASE PRESENTATION.

Piotr Szatkowski[2], Wojciech Dyk[1], Krzysztof Wróbel[1], Ryszard Wojdyga[1], Ewelina Pirsztuk[1], Marcin Zygier[1], Dariusz Zieliński[1], Andrzej Biederman[1]

[1]*Allenort Hospital, Warsaw, Poland*
[2] *National Institute of Cardiology, Warsaw, Poland*

Background. Chronic thromboembolic pulmonary hypertension (CTEPH) is a rare complication of acute pulmonary embolism. Prognosis of patients diagnosed with CTEPH managed conservatively is poor. Pulmonary endarterectomy (PEA) is the treatment of choice for patients with proximal location of thromboemboli in pulmonary arteries.

Heparin induced thrombocytopenia (HIT) may develop in 1-5% of patients treated by unfractionated heparin (UFH) for several days. HIT is a condition associated with the development of platelet factor 4 (PF4)–heparin complex antibodies that bind to platelets triggering arterial and venous thrombosis associated with life-threatening complications. Anticoagulation for cardiopulmonary bypass (CPB) in acute or subacute HIT is possible with direct thrombin inhibitors or UFH. Both strategies carry high risk of complications.

Methods. Between 2010-2011 2 females with CTEPH previously diagnosed with HIT underwent succesful PEA. Preoperative values of mean pulmonary arterial pressure (MPAP) and pulmonary vascular resistance (PVR) decreased significantly after surgery. PVR dropped from 1530 to 340 dyn·s/cm^5 in the first and from 950 to 218 dyn·s/cm^5 in the second patient. MPAP decreased from 46 to 23 mmHg in the former and from 53 to 26 mmHg in the latter. Anticoagulation during CPB was managed with UHF alone monitored by ACT in both patients. Adequate heparin neutralization with protamin was sufficient to control the bleeding. After the operation and throughout the postoperative course both patients received subcutaneous fondaparinux. In both cases dramatic, but transient decrease of platelet level much lower than 7000/dl was observed. The patients spent 15 and 19 days in the ICU. Both patients were discharged home in good general condition on postoperative day 18 and 29, respectively.

Conclusions

1. The use of UFH alone in patients with HIT causes significant decrease of platelets level (induces rapid onset of HIT)
2. Postoperative management with fondaparinux prevents from thromboembolic complications in patients with HIT.