中文題目：未治療的葛瑞夫茲氏病併發甲狀腺風暴
英文題目：A case of uncontrolled Graves' disease complicated with thyroid storm
作　　者：許郡珈[1], 張家豪[1], 張厚台[1]
服務單位：[1]亞東紀念醫院內科部

Abstract
Thyroid storm is a rare but life-threatening condition of thyrotoxicosis. We reported a case of thyroid storm in a 40-year-old male with undiagnosed Graves' disease. We discussed a successful treatment of thyroid storm. Initially, he had respiratory distress, atrial fibrillation with rapid ventricular response, heart failure, agitation, hyperthyroidism, which were compatible with thyroid storm. We started the treatment with oral Propylthiouracil, Lugol's Solution, intravenous hydrocortisone, and Propranolol. Then duodenal ulcer bleeding happened. We treated with intravenous Pantoprazole and heater probe hemostasis but poor response was noted. He thus received subtotal gastrectomy with gastrojejunostomy. The oral intake was contraindication after the operation. The intravenous or rectal methimazole was not available in our hospital. Elevated free thyroxine was noted when he did not take antithyroid drug. In case of the thyroid storm flare-up, the total thyroidectomy was performed. We prescribed thyroxine and calcium supplement. He was discharged without obvious sequela.

Case report
This 40-year-old male was brought to the hospital due to shortness of breath. He had intermittent palpitation and excertional dyspnea in the past 5 years. Patient did not seek medical assistance for those symptoms. On admission, the vital signs were blood pressure 160/105 mm Hg, pulse 80 bpm, respiration rate 20/min, O_2 saturation 95% on room air, temperature 36.5 °C. The initial physical examination showed grade II thyroid goiter and four limbs pitting edema 2+. The chest X-ray showed cardiomegaly and right side pleural effusion. Tachycardia was noted and the electrocardiogram showed atrial fibrillation with rapid ventricular response. The Propranolol 10mg every 6 hours was prescribed for rate controlled. The echocardiography revealed the ejection fraction was 51%, with four chamber dilatation. Congestive heart failure was impressed and intravenous diuretics were added. The chest computed tomography scan revealed prominence of bilateral thyroid gland, cardiomegaly and right side pleural effusion. Thoracocentesis was done and the effusion was transudate. The blood examination showed hyperthyroidism (thyroid stimulating hormone 0.005 μIU/mL and free thyroxine 6.2 ng/dL), thyrotropin receptor autoantibodies 92.59%, prolonged prothrombin time. Then he became agitation, palpitation, diarrhea, nausea sensation, and severe respiratory distress. Based on the diagnostic criteria for thyroid storm developed by Burch *et al*, the diagnosis was Graves' disease with thyroid storm. We started oral Propylthiouracil 200mg every 4 hours, Lugol's Solution (Iodine 50mg) 3 times per day, and intravenous Hydrocortisone 100mg every 8 hours. He was intubated because of respiratory failure. The patient was subsequently admitted to the intensive care unit for further management.

Acute hepatitis happened. The abdominal echography revealed liver chirrhosis. We discontinued the Propylthiouracil. We prescribed oral Methimazole 20mg every 4 hours because of acute hepatitis. The Lugol's solution was prescribed for 7 days. The follow up free thyroxine was 0.3 ng/dL. However, 9 days after admission, duodenal ulcer bleeding happened. We treated with heater probe hemostasis and intravenous Pantoprazole but recurrent bleeding was still noted. He received subtotal gastrectomy with gastrojejunostomy (Billorth II). The enteral feeding was contraindication after the operation. The follow up free thyroxine was increased because he could not take Methimazole. The intravenous or rectal methimazole was not available in our hospital. He could not tolerate Prophylthiouracil due to impaired liver function. Then he received the total thyroidectomy. The oral thyroxine 100 mcg per day and oral calcium supplement were prescribed after the procedure. During the hospitalization, the liver function and congestive heart failure gradually improved. The atrial fibrillation returned to a normal sinus rhythm. The Propranolol and diuretics were discontinued. The extubation was done. After about one month, the patient was discharged without any symptoms.