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CARDIOVASCULAR FLASHLIGHT

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Chinese herbal drug natural indigo may cause pulmonary artery hypertension

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A 45-year-old woman was admitted due to increasing dyspnoea, chest oppression, and leg oedema in December 2015. She had a 5-year history of ulcerative colitis (UC) and had been taking the herbal medicine natural indigo (NI) at 2 g/day for 6 months. No abnormalities had been detected at a medical check-up 3 months before admission. On admission, transthoracic echocardiography revealed typical systolic flattening of the interventricular septum (Panel A) with a dilated right ventricle and severe tricuspid regurgitation (Panel B), indicating severe pulmonary artery hypertension (PAH). Electrocardiogram-gated contrast-enhanced computed tomography revealed a dilated right ventricle without pulmonary embolism (Panels C and D). No cardiovascular anomaly or arteriovenous shunt was detected on transoesophageal echocardiography. After diuretic treatment for 6 days, catheterization revealed PAH (58/25 mmHg; mean, 36 mmHg) and high PA resistance ($689 \text{ dyn s cm}^{-5}$) with normal pulmonary capillary wedge and left ventricular end-diastolic pressures (5 mmHg, respectively). From the physical examinations and laboratory data, collagen diseases were considered unlikely. The lymphocyte transformation test, which indicates drug allergy, showed a positive reaction for NI, suggesting NI as a possible cause of PAH. Although symptoms were improved after diuretic therapy, estimated PA systolic pressure after discontinuing NI for 1 month remained high (58 mmHg). Careful observation and additional medication are needed.

Natural indigo, an unapproved Chinese herbal drug used for UC, has been reported as effective against intractable UC, and clinical trials are ongoing. Although no causative relationship between NI and PAH has been established, clinicians should recognize a potential association between NI and PAH.

