Herbs, seeds, oil and eggs: a vasotoxic salad

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Wednesday, December 10, 1952, and physician Albert Schweitzer received the Nobel Peace Prize for his humanitarian work in French Equatorial Africa (now Gabon). Today, 40 years later, a symposium was held in Libreville to celebrate his ‘reverence for life’. Residents in internal medicine from around the world presented clinical vignettes; invited faculty, commentary.

Dr. Nick Lewis, from Jamaica, West Indies, began with ‘A Case of Rattlebox Disease’. A 16-year-old boy with hepatomegaly since age 8, presented with ascites and cirrhosis. Liver biopsy demonstrated fibrosis and veno-occlusive disease. At 7, his family had treated his flu-like illness with Shack-Shack, a decoction of the leaves of various plants (bush tea), including Crotalaria retusa. Due to pyrrolizidine alkaloids e.g., monocrotaline, crotalism was first described in horses after C. spectabilis ingestion and termed ‘Missouri River bottom disease’. Ripe crotalaria seeds in their pods are called a ‘rattlebox’. Professor A, Kimberley, Australia, noted horses ingesting C. retusa developed walkabout disease; they pursued a relentless straight-line course despite obstacles. An association between these alkaloids and pulmonary hypertension PHT, while not found in man, was seen in rats. Could ‘health food’ stores sell herbs containing such alkaloids?

‘Denatured and Re-refined, But Still Repugnant’ was presented by Dr. Nick Ortega, Madrid. A 39-year-old woman presented in May, 1981, with fever, cough, dyspnea, hypoxemia, eosinophilia (eos), and diffuse interstitial X-ray markings. Atypical pneumonia was presumed. In June, she had muscle pain, facial edema, PHT and eos. She was now recognized as having toxic oil syndrome TOS. TOS afflicted 20,000 Spaniards who ingested adulterated rapeseed oil. In August, scleroderma-like skin lesions, muscle cramps and carpal tunnel were noted with PHT and eos. Years later evidence of PHT resolved; mild exertional dyspnea remained. The pathophysiology of TOS is unclear, but eos degranulation with release of major basic protein was held responsible. Similarities between TOS and the eos-myalgia syndrome (EMS), were noted. EMS, first observed in 1989, would afflict 2000 Americans who ingested contaminated tryptophan, much of it sold in ‘health food’ stores for insomnia. Professor B, Madrid, noted reversible PHT was unusual. Consumer products, presumed safe, had trace contaminants that can adversely influence endothelial cells.

Dr. Nicole Kizito, Uganda, Africa, presented ‘A Case of Swimmer’s Itch and Symmer’s Fibrosis’. A 20-year-old man with a 2-year history of abdominal swelling, now experienced exertional dyspnea with near syncope and blood-tinged sputum. He left Kenya at age 8 to live with relatives in the West Nile district of Uganda. He subsequently recalled itching after swimming in nearby lakes. Physical findings: PHT; liver, non-tender and enlarged; spleen palpable at the umbilicus; finger clubbing, without cyanosis; and ankle edema. Markedly dilated pulmonary conus and arteries, right atrial enlargement, and miliary mottling on X-ray. Normal hemoglobin and white count with eos. When ova were not found in stools, Nicole examined sputa, where non-viable Schistosoma mansoni ova were seen. Granulomata and ova were found on liver biopsy, together with portal fibrosis. Schistosomiasis affects 200 million people and is endemic to certain regions of the world. For individuals living in such areas, and unlike this patient, initial infestation goes unnoticed. With portal hypertension due to Symmer’s fibrosis, eggs embolize the pulmonary circulation. A progressive, obliterator arteriolitis follows. Professor C., Cairo, Egypt, noted proteolytic activity permits ova to migrate through vessels, without aneurysmal formation. Granulomatous tissue surrounds such ova and presents as mottling. Angiomatoid lesions account for hemoptysis and clubbing.

Professor D, from Basel, Switzerland, closed the session. He reviewed the PHT epidemic in Austria, Germany...
and Switzerland involving 600 cases between 1966–1968. Aminorex (Menocil), a dietary suppressant, was responsible. An open discussion followed. Nicole inquired about research into pathophysiology of PHT and new treatment strategies.

**Answer**

Structural and functional alterations in endothelial cells and phenotypic conversion of vascular smooth muscle cells are associated with PHT. A fragmentation of internal elastic lamina accompanies increased elastase activity (EA) of involved vessels and appears soon after adult rats receive monocrotaline and later when PHT is progressive and irreversible. EA is related to the serine proteinase adipsin, localized to vascular smooth muscle cells of the pulmonary circulation. In rats given monocrotaline, serine elastase inhibitors prevent increased EA, vascular remodeling and PHT. Their efficacy in man is presently unknown.