Bronchial Thermoplasty: A Novel Approach to Asthma Treatment

Madam, Bronchial Thermoplasty is a novel approach aimed at alleviating the painful symptoms associated with asthma. Bronchial Thermoplasty is done using the Alair® system which consists of a single catheter and a controller that delivers radio frequency energy to apply controlled heat on the smooth muscles of the airway to relieve asthma symptoms. As the procedure requires only light anaesthesia, it can be performed on an outpatient basis. A small, flexible tube called a bronchoscope is inserted through the nose or mouth and guided into the lungs and then into the airway on which Bronchial Thermoplasty is to be performed. After placing a bronchoscope in the desired airway, an Alair® catheter is inserted through the bronchoscope. This catheter has an expandable wire basket with four arms that securely fit against the airway wall. Consequently the tip of the catheter is inflated until it touches the sides of the airway wall. Radio frequency energy is then sent through the catheter, heating the smooth muscle walls of the airway to approximately 65°C (149°F) for a period of 10 seconds. Studies in animals and humans have shown that this temperature is sufficient to reduce the smooth muscle mass in the airway wall while it can also result in epithelial damage which usually resolves over time.

Clinical trials carried out by McMaster physicians Dr. Gerard Cox and Dr. John Miller are very promising. Initially 16 patients who suffered from mild to moderate asthma underwent Bronchial Thermoplasty after which they were assessed at 12 weeks, 2 months and 2 years following treatment. Participants underwent three thirty-minute sessions treating all accessible airways.

All in all, Bronchial Thermoplasty has certainly added a new chapter in asthma treatment; while it is not intended to serve as a cure it will certainly complement conventional treatment.

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References

Severe metabolic acidosis secondary to zinc phosphide poisoning

Madam, we want to attract attention on, acute distal renal tubular acidosis (type 1) caused after zinc phosphide poisoning. A 25-year-old man was admitted to our emergency room 1 h after he had attempted to commit suicide by ingesting zinc phosphide powder. The ingested amount was estimated at about 7 g. He suffered from depression which had been diagnosed 3 years earlier. The patient had no history of diabetes mellitus, chronic renal failure, ureterosigmoidostomy operation, chronic diarrhea and alcohol intake. On admission he was confused and had tachypnea. He complained of nausea, abdominal pain and vomiting. His blood pressure was 110/75 mmHg and pulse rate 96/min. Electrocardiography showed normal sinus rhythm. Chest radiography was normal. Gastric lavage and activated charcoal was administrated via a large nasogastric catheter. A urethral catheter was administered for monitoring patient's urine output. Laboratory tests at admission included: sodium level 139 mmol/L, potassium 3.8 mmol/L, chloride 116 mmol/L, blood urea nitrogen 18 mg/dL, blood glucose 157 mg/ dL, serum creatinine, 0.9 mg/dL, arterial blood gas analysis revealed pH 6.973, Paco2 24.2 mm Hg, Pao2 91 mm Hg, and HCO3 9.3 mEq/L, lactate 2 mEq/L and urine Ph 6. Serum anion gap was calculated 13, 7 (normal anion gap between 8-16). According to laboratory results acute distal renal tubular acidosis (type 1) was diagnosed. Sodium bicarbonate as a bolus of 80 mEq and continuous infusion 25 mEq/h was administered. Metabolic acidosis was resistant to IV sodium