or of ether vapor precludes the use of cautery or diathermy in transthoracic gastrectomy. Pentothal, curare and nitrous oxide-oxygen have been used. An amazingly small amount of sodium pentothal is required and the patient is ready to wake up at the end of the operative procedure. The anesthetist must watch the operation closely in order to conduct the anesthesia and manage the physiology of the patient. At the end of the operation the patient's lungs must be filled with helium or nitrogen and adequate oxygen, and kept expanded during closure of the chest. This final expansion is one means of avoiding atelectasis.

F. A. M.


The use of coca by the Incas was widespread. The plant held an important place in their civilization and religion. Although the origin of the Incas is unknown it is possible that coca was brought into their civilization by one of the races which they conquered. Coca, like all other things which were thought to be capable of giving life, was an object of worship. Coca was incorporated into the religious ceremonies and was reserved for priests and a few others such as soldiers. After being conquered by the Spaniards the Incas were forced to work in mines on meagre rations. They chewed coca leaves to relieve their fatigue and satiate their appetites. The Spaniards soon recognized the need of the Indian for coca and its value as a source of revenue.

In modern times the Indians of the Bolivian plateau throw coca into the air to propitiate the gods. The porters traveling all day at a rapid rate with heavy loads chew coca leaves constantly or pause every forty minutes to take a fresh supply. The leaves and an alkaline substance are kept in the cheek. These Indians may live to be a hundred years old and their endurance to fatigue is phenomenal. They often go for three or four days without hunger or fatigue while working constantly and may go eight or ten days without sleep as long as they have coca. Other uses to which coca is put are, chewing with tobacco to produce intoxication, as a gift at death ceremonies, as a dessert at reunions and as a carminative and treatment of diarrhea.

Coca culture was developed to a high state during the Incan age. It is now grown on the Eastern slope of the Andes. The amount of alkaloid in the leaves increases with the age of the plant, reaching the peak when the plants are ten years old. Three to five harvests are made each year. The leaves are dried, baled and transported to coastal towns for shipment. The Spaniards studied the drug but early investigators considered it to be either inert or a mild stimulant like tea.

After Niemann, in 1860, isolated an alkaloid which he called cocaine, Schroff and Demarle observed that it produced analgesia of the tongue. Karl Koller, working with Freud in Vienna, in 1884, confirmed the numbing effect of cocaine on the tongue. He reasoned that if it was capable of paralyzing nerve-endings in the tongue cocaine could also be expected to paralyze the nerves in the cornea and conjunctiva. He conducted experiments which corroborated his theory and prepared a paper relative to the subject for presentation and publication. The use of cocaine soon became universal.

F. A. M.


In a series of cases of bone graft operations a common feature was the
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site from which the bone was obtained. The iliac bone just beneath the crest or the crest itself is used. The usual procedure is to turn up the iliac crest with the abdominal muscles attached. This causes a great disturbance of the normal muscular activity employed in respiration, particularly in coughing. The patients are encouraged by a skilled physiotherapist to clear any mucus from the throat, larynx and chest. For the first twenty-four to forty-eight hours the clinical picture is that of an immobile, uncooperative patient. Later the effort to cough becomes less painful, but during the first period much damage may occur to the lungs.

An analysis of the first 16 cases of bone graft showed 9 cases (56 per cent) of respiratory complications of varying degrees of severity. All cases are probably degrees of the same condition, bronchial plugging with resultant collapse and infection.

Apart from bronchoscopy and suction, coughing is the most effective way of clearing the air passages of secretions. Yandell Henderson has shown that pulmonary collapse which follows bronchial plugging can be treated effectively and quickly by carbon dioxide inhalations. Carbon dioxide increases muscle tone, respiratory depth and ciliary action. With improved respiratory movement plugging is less liable to occur. More blocking of the bronchial tree by mucus being drawn further down has not been observed.

Alternate cases were treated with carbon dioxide inhalations. Forty cases not given inhalation treatment showed that 26 (65 per cent) had respiratory trouble. Of 18 cases treated with inhalations of carbon dioxide only 4 (22 per cent) had respiratory trouble. On return to the ward, before recovery of consciousness, carbon dioxide 5 per cent in oxygen is given by catheter down the airway, later by nasal catheter. After return of consciousness a B.L.B. mask is used. The gas is inhaled for ten minutes every waking hour the operative and first postoperative day. During the second day the inhalations are given for ten minutes every three hours and during the third day for ten minutes three times during the day. 4 references.

F. A. M.


Complications and fatalities due to imperfections in technic and in drugs used for spinal analgesia have caused criticism of the method. Cauda equina lesions have occasionally followed spinal analgesia. An investigation of the causes of cauda equina lesions revealed that, prior to 1935, only 16 cases were recorded. Of these 7 followed stovaine, 1 followed 4 per cent novocaine, and the remaining 8 followed unstated analgesics. One case of a mild cauda equina lesion following the use of Chaput’s solution (10 per cent stovaine in saline) interested the author in this condition. Records of 5 further cases were collected.

No satisfactory explanation of the cause of cauda equina lesions could be found in investigation of trauma, infection and the action of constituents other than the analgesic agent. The concentration pH and tonicity of various analgesic solutions were studied as well as the role of alteration in pressure of cerebrospinal fluid. All the evidence incriminates the use of concentrated solutions which are kept in contact with the sacral roots for a long period.

Amethoaine produces analgesia more intense than with other agents. Its action is quicker than that of nupecaine and clinically its effects are equally long lasting. A preparation to be marketed as "Spinal D. Isotonic"