Abstracts

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There are certain prerequisites which physiologists agree are essential for normal repair of injured tissues. These are: (1) adequate amounts of ascorbic acid, (2) equilibrium of serum proteins and (3) normal carbohydrate metabolism. In recent years there have been indications that local anesthesia may play a significant part, especially when pain is a factor.

An ointment was used which contained less than 1 per cent of para-aminobenzoate, with a small amount of cod liver oil for its analgesic and healing properties. Sodium propionate was added to increase the antiseptic properties of the ointment. Burns and hypostatic ulcers were selected to determine the effect of a local anesthetic on tissue regeneration. Sixty subjects were tested by 240 patch tests for primary irritation and hyperallergization. Only one patient reacted positively to the ointment. Tests with various ingredients showed that this patient was sensitive to benzyl benzoate.

The ointment was used on sixty-six patients who had burns of varying degrees. Thirty-one patients who had ulcers due to various causes were treated with the ointment. Healing was rapid, no infection was observed during treatment and scars were soft and supple. No irritation occurred. Of the patients treated and the persons receiving patch tests, none showed sensitivity to benzocaine. 9 references.

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The recent introduction of preparations of curare of greater purity than formerly and of standard potency has revived interest in the drug. Intocostrin, one of the preparations of curare, is used as an adjunct to general anesthesia. It is also used to soften the convulsive phase in the metrazol treatment of psychoses. Scattered reports have appeared regarding its use in the treatment of some diseases of the neuromuscular system. The idea of using curare in the treatment of tetanus was reported as early as 1860.

Death from overdosage of curare has generally been ascribed to asphyxia from paralysis of the respiratory muscles. This premise is not strictly correct as death has been known to occur from circulatory failure. In the treatment of tetanus, curare should be limited to overcoming the muscle spasm. The cause of the disease should be treated by other means.

Five patients in whom the diagnosis of tetanus was established were treated with curare. Undiluted, aqueous solution of curare (intocostrin) containing 20 units of standard curare per cubic centimeter was used in all cases. Equipment for artificial respiration and for administering oxygen was available at all times. The recommended dose of one-half unit per pound of body weight was computed for each
case. This amount was not exceeded at any one time.

The action of the drug was of short duration. Repeated doses were necessary at frequent intervals to maintain a sustained effect. Since almost complete curarization followed each attempt to produce adequate muscle relaxation this repetition was a drawback. Unlike the graded response during anesthesia, the effect of curare in these cases appeared to be abrupt in onset and the muscles became flaccid shortly after the loss of muscle tone. The various groups of muscles were not affected simultaneously. The fact that curare affects structures innervated by the cervical and cranial nerves before those innervated by spinal nerves was well demonstrated by the effects on these patients.

Respiratory failure in the presence of tetanus which has already placed great stress on the respiratory and circulatory systems can be disastrous.

The promptness with which trismus, rigor and other manifestations of hypertonicity returned as the effects of the drug diminished seems to preclude the possibility of giving the drug in small doses at less frequent intervals, as has been suggested. The hazards involved in the use of curare in the treatment of tetanus requires the constant attendance of the physician directing the therapy. 1 reference.

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The relative merits of 5 anaesthetic agents were investigated by studying several long term cases at a plastic surgical unit. Cyclopropane, ether, nitrous oxide and trichlorethylene (all induced with pentothal), nitrous oxide and pentothal combined, and 2 cases of local anaesthesia were compared. Divergence from normal physiology was investigated and the changes then considered in relationship to the surgeon and anaesthetist.

The blood pressure showed many changes. The mean arterial pressure showed considerable variation under the different anaesthetics. The work of the heart, other factors being constant, varied directly as the mean arterial pressure. Variations in diastolic pressure, which were often large, are more important than those in systolic pressure. All variations, from whatever cause, mean strain on vital structures. A weak, debilitated patient may not withstand this strain. Whatever changes occur should be minimal and not occur too suddenly. Adaptation to extreme change will be made provided such change has been induced slowly. With cyclopropane there is a strong tendency to rising systolic, and to a smaller degree rising diastolic pressures. The greatest instability and the most violent changes of pressure occurred under cyclopropane. Local anaesthesia showed the smoothest readings. Ether tends to show an initial instability of the pressure. Nitrous oxide and pentothal combined show on the whole steady readings but there is a tendency for the diastolic pressure to rise steadily throughout the operation. With trichlorethylene there is a steady even chart of both systolic and diastolic pressure.

Pulse and respiratory rates were both depressed under cyclopropane. With pentothal and nitrous oxide the respiration is also depressed but the pulse rate is raised slightly. Ether showed an increased pulse rate and no respiratory depression. Trichlorethylene slows the pulse and always increases the respiratory rate. Irregularities of the pulse are noted. Maintenance of circulation depends on the suction and force-pump actions of the respiration. Study of the pulse rates