

upper abdominal procedures. Comparison of patients who had endotracheal intubation with those who were not intubated shows a smaller percentage of post-anaesthetic complications in the intubated group than in the others. Comparison of post-anaesthetic complications following use of spinal agents and cyclopropane for the repair of inguinal hernia demonstrates no significant difference in the presence of respiratory infection (active or recent). In cases where no history of respiratory infection exists the complication for cyclopropane anaesthesia is much less than that for the spinal agents. The effect of adding a supplemental inhalation agent to spinal anaesthesia is studied. In this series the incidence of post-anaesthetic pulmonary complications is slightly greater in the supplemented group than in those not supplemented."

J. C. M. C.

HAYMAN, I. R., AND WOOD, P. M.: *Abducens Nerve (VI) Paralysis Following Spinal Anesthesia*. Ann. Surg. 115: 864-868 (May) 1942.

"At the turn of the present century spinal anesthesia became recognized as a well-accredited procedure with such men as Bier, Furster and Jonnesco, in Europe, and Babcock, in this country, as its staunchest supporters. Each one of these writers alluded to ocular palsies as a rare complication. . . . Statistics, as presented by some authors, point to the incidence of paralysis of the abducens nerve as high as 1 per cent of all spinal anesthetics (Terrien). Cantonnet and Francois speak of it as occurring once in every 250 cases. Why is it that during the past ten years only occasional cases are reported? It can be explained in any one of three ways: First, that our present technic and drugs have practically eradicated this rather disturbing complication; second, that these paralyzes do occur but are not being recognized;

and, third, that these cases do occur, are recognized, but are not being reported. . . . The etiology of abducens nerve paralysis is still not clearly understood. . . . However, it appears that there are three general points to be considered in the pathogenesis, viz.: (1) Frequency of paralysis of the abducens over other cranial nerves. (2) Immediate etiologic factors. (3) The rôle played by preexisting diseases. . . .

"Paralysis of the abducens nerve is usually preceded by a period of headache, dizziness, nausea, stiff neck and photophobia, following which diplopia appears. The paralysis occurs from three to 21 days after the administration of the spinal anesthetic. . . . Women are definitely more prone to develop this complication than men. The ratio of unilateral to bilateral lesions is 3:1. The duration of the above paralysis is shown as follows: 4 weeks, 54 per cent, 5-8 weeks, 26 per cent, 9-12 weeks, 10 per cent, 3-12 months, 10 per cent. The prognosis is usually favorable, with gradual subsidence of subjective complaints and clinical findings. . . . There is no specific therapy for paralysis of the abducens nerve following spinal anesthesia. The treatment is entirely palliative and usually aids in making the patient more comfortable. A spinal tap should be performed and if the fluid is under increased pressure (manometric readings) then a sufficient amount should be removed in order to obtain a normal reading—5-15 cm. of water. The paralyzed eye should be covered in order to remove the distressing diplopia. This, however, should be limited to the shortest possible time because of the fact that exclusion of the fusion tendency prevents a compensatory innervation, and aids in the development of secondary contracture. Galvanic treatment, although much employed, is helpful only as a psychotherapeutic measure. Because of the danger of injuring the retina, the cur-

rent must be so weak that it does not produce a contraction even of the normal muscles of the eye. Resection and recession of the muscles should not be resorted to for a period of two years if the muscle has failed to reestablish itself. . . . Two cases are presented." 10 references.

J. C. M. C.

MAHORNER, HOWARD: *Sympathetic Nerve Blocks in Rehabilitation of the Injured Extremity: Report of Cases; and a Discussion of Causalgia*. New Orleans M. & S. J. 94: 426-432 (Mar.) 1942.

"Pain sometimes remains as the only symptom to interfere with an otherwise satisfactory result following an injury. . . . Weir Mitchell first described and named a condition causalgia which he observed in soldiers who had been injured during the Civil War. Causalgia literally means a burning pain and the type of pain he described from incomplete severance or injury of a nerve was very intense. The soldiers had a severe burning pain in the distribution of the nerve affected. The area was hyperesthetic. There were paresthesias and the subject protected himself from the slightest stimuli. Heat, cold and even wind would cause an exacerbation of the pain to such an extent that they attempted to avoid them. Pains of a milder character which may not be regarded as typical causalgia occur more frequently and may persist late in convalescence from injuries. Leriche was the first to realize the practical importance of the sympathetic nervous system in arresting pain of such character. . . . Four instances are given in the form of case reports where repeated sympathetic nerve blocks with novocain in conjunction with physiotherapy resulted in recovery of the patient and rehabilitation of an extremity. In two instances the results otherwise had been regarded as perma-

nent and total disability." 2 references.

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HOLLIS, K. E.: *Indications and Contraindications in Spinal Anaesthesia*. Canad. M. A. J. 46: 351-354 (Apr.) 1942.

"It is impossible to catalogue separately the indications and contraindications in spinal anaesthesia, for a deterring factor in one case might under slightly altered circumstances have no influence in another case. . . . We all have had patients who presented a strong antipathy to spinal block. Personally I have refrained from forcing the issue. . . . Age is no barrier to this technique. . . . The young, robust and muscular individual is often difficult to control with inhalation anaesthesia but is an excellent subject for spinal block. . . . It is generally conceded by most authorities that spinal anaesthesia should be confined to operations below the diaphragm, that its greatest field of usefulness is in abdominal surgery, and that it should not be used for minor operations, which can adequately be performed under field block or some gaseous anaesthetic agent. I wish to add my endorsement to this last view. . . . In abdominal surgery and particularly in upper abdominal lesions spinal anaesthesia is the undisputed anaesthetic of choice. . . . Advanced cardio-vascular disease is a definite contraindication to high spinal anaesthesia. . . . Patients with an extremely low blood pressure should also receive every consideration before deciding to employ spinal block. . . .

"Patients with decreased blood volume such as occurs in shock or dehydration from prolonged vomiting are to be considered unsuitable. Disease of the central nervous system such as intracranial tumours, cerebral hemorrhage, tumours of the spinal cord and meningitis are definite contraindications in subarachnoid block. A posi-