ABSTRACTS

Editorial Comment: A fixed style of presentation for this department of ANESTHESIOLOGY has purposely not been defined. It is the wish of the Editorial Board to provide our readers with the type of abstract they desire. Correspondence is invited offering suggestions in regard to the length of abstracts, character of them, and source of them. The Board will appreciate the cooperation of the membership of the Society in submitting abstracts of outstanding articles to be considered for publication.

RUSKIN, S. L.: *Local Injection of Procaine Penicillin Solution in Secondary Mastoiditis.* Eye, Ear, Nose & Throat Monthly 31: 36–37; 50 (Jan.) 1952.

"Among the many dramatic experiences in medicine today is the gratifying one of local injection of procaine penicillin solutions of 3000 to 5000 units per cc. directly into the inflamed and abscessed areas. . . . Arentsens reporting on 87 cases of a variety of suppurative infections, concluded 'it is only necessary to use one single injection, or at the outside, in order to complete the cure in a very acute inflammatory process, we use two. . . .' Arentsens was also impressed by the obvious fact that 5000 units of procaine penicillin locally into the infected area produced an antibiotic level at the desired point that millions of units could not accomplish by systemic therapy. In this paper a striking example of this fact was demonstrated in the case of Dr. R. S., a research physician, age 49. . . . On August 1, 1950, following an upper respiratory infection, he developed an acute suppurative otitis media in his right ear from which time on he gave himself daily injections of 300,000 units of procaine penicillin in oil. Within the next few days, the left ear also began suppurating. He supplemented the procaine penicillin injections with oral sulfonamide medication. He was seen by me on the tenth day when he already showed signs of an early mastoiditis on the right side and beginning secondary mastoiditis on the left. The procaine penicillin dosage was advanced to 600,000 units of aqueous procaine penicillin, twice daily, during the following week, when the right mastoid involvement was observed to recede, but the secondary mastoiditis on the left increased. . . On the 14th day of the onset of the infection, the local physician and the patient, also a clinician, concluded that a secondary mastoid operation was indicated and the patient returned to the city for the operation. . . .

"Under ordinary circumstances, incision and drainage would have been performed. Instead, 2 cc. of procaine penicillin solution 5000 units per cc was injected directly into the inflamed area with the needle progressing to the center of the abscessed area. The patient stated that he felt a sensation of tenseness followed in a few minutes by relief of pain. He slept more comfortably that night and when seen the next morning, the acute signs of inflammation had regressed, the swelling appeared smaller, the redness was reduced and the patient felt that he was definitely improved. The procaine penicillin injection was repeated. The following day the patient had recovered sufficiently to feel that he could

return to his home without requiring surgical intervention. A third injection was administered, although it really did not appear strictly necessary. . . . Four weeks after this therapy was administered, there was no recurrence of the infection, and the patient considered himself cured. . . . A synergistic effect apears to exist between penicillin and procaine. When procaine penicillin solution, 5000 units per cc., is used for straight surgical anesthesia in tonsillectomy or nasal surgery, postoperative inflammatory reaction is decidedly less than when procaine hydrochloride is used for the anesthesia. Procaine penicillin injected into the tonsillar pillars on the second or third day postoperatively quickly reduced postoperative discomfort. Thus, as a surgical anesthetic agent procaine penicillin is superior to procaine hydrochloride and should be routinely preferred, not only for its improved anaesthesia but also because it simultaneously protects the surgical area."

A. A.

SANDBERG, FINN: *A Comparative Study of the Anticonvulsant Effect of the N-Substituted 5,5-Diallylbarbiturates and 5,5-Diphenylhydantoins.* Acta Physiol. Scandinav. 24: 149–162 1951.

"In an earlier paper a study was made of the variations in the anesthetic properties with a change in the radicals in the l-position in a series of 1-substituted 5,5-diallylbarbituric acid derivatives. Because N-substituted barbiturates (Mebaral or Prominal and trimethyl barbituric acid) are also useful therapeutically for grand mal epilepsy it was logical to extend the study to the anticonvulsant effect of the forementioned series of barbiturates and to compare these results with those obtained in a series of hydantoins with the same variation in the substituent group on the nitrogen. . . . The following results were found using the supramaximal electroshock method [in rabbits and rats]. The barbiturates and hydantoins were equally potent in shortening the tonic phase. Both groups of derivatives prolonged the clonic phase, but the prolongation was twice as long in the case of the hydantoins. The total length of the seizure was unchanged by the hydantoins but significantly shortened by the barbiturates. The introduction of various radicals on one of the nitrogens of the parent compounds could not change their different qualitative character but produced considerable variations in the median anticonvulsant doses, the effect usually differing in the two series. The carboxymethyl derivative of 5,5-diphenylhydantoin was as active as the parent compound, the other N-substituted derivatives being less active than their parent compounds. The allyl derivatives were more effective than the corresponding methyl derivatives. In the N-substituted barbiturates the anticonvulsant activity was not closely related to the hypnotic efficiency."

A. A.