had appeared in a few months in each case. The chief benefit from the use of this method, if its value is confirmed, would appear to lie in the alleviation of this unsightly effect of insulin therapy, which so commonly occurs in children and young women. Among 20 diabetic children at this home, insulin atrophy has occurred in 10 (50%).

There are, however, some practical points for consideration before the method can be applied to the routine outpatient treatment of diabetics. At present we believe that the insulin-hyaluronidase mixture must be freshly prepared each day, as its spreading action begins to diminish after eight hours. A more stable preparation would have obvious advantages. Further, it is probable that we have been using an excessive amount of hyaluronidase.

Summary

Three cases are described in which an insulin-hyaluronidase mixture has prevented the onset of insulin atrophy.

The practical difficulties in the giving and preparation of this mixture are discussed.

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Medical Memorandum

A Case of Friedländer's Pneumonia Treated with Aureomycin

The incidence of Friedländer's pneumonia has been estimated as 0.8 to 4% of all pneumonias. Rosenthal (1949) points out that these figures are probably too high, as it is only the severe pneumonias which are admitted to hospital.

Before the introduction of the sulphonamides the mortality was approximately 80%. With their advent it fell to 60%, only to rise again when they were gradually replaced by penicillin—which is almost completely ineffective against this organism—as the treatment for all types of pneumonia. Gill (1951) believes that penicillin may actually be harmful, stating that all his patients treated with penicillin alone died. In the days before any specific treatment was given, 20% recovered. He suggests that this may have been due to the penicillin killing susceptible organisms, thereby giving the Friedländer's bacillus a free field.

Streptomycin has proved more valuable than the sulphonamides, and some encouraging reports have been published (Barber and Grant, 1952). However, as this condition can become chronic, and as the dosage of streptomycin needed may be high, complications of treatment may arise. Furthermore, strains exist which are resistant to streptomycin, so that some other antibiotic may be necessary. This is a report of such a case, in which aureomycin proved effective.

CASE REPORT

On January 17, 1951, a married woman aged 40, who had previously enjoyed good health and who was seven months pregnant (para 8) developed a "severe chill." She was attended by her doctor, who diagnosed influenza, which was at that time epidemic in Dublin. On January 19 she had a spontaneous precipitate delivery in the toilet. The next day she was admitted to the Mater Nursing Home under my care, her doctor having found evidence of consolidation in the upper lobe of the left lung. On admission this finding was confirmed, and she was noted to be extremely dyspnoeic. She was given oxygen, and started on penicillin and streptomycin in heavy dosage. Twelve hours after admission the cyanosis was less, but she complained of intense chest pain, which was not completely relieved by morphine. She was now coughing sputum which resembled tomato sauce in consistency and colour.

On examination the whole left lung was found to be consolidated. Toxaemia was marked and restlessness was extreme. The nature of the sputum, the degree of toxaemia, and the complaint of intense pain suggested a diagnosis of Friedländer's pneumonia. Aureomycin, 500 mg. every six hours, was begun. Bacteriological examination of the sputum was not possible until January 22, when a culture gave the following results: "Organisms were present in scanty numbers only. A growth of Gram-negative bacilli of the Friedländer group was obtained. The sugar reactions were characteristic." These organisms were subsequently demonstrated to be resistant to penicillin and streptomycin, but sensitive to aureomycin. On the same date the white cell count was 14,000 (74% polymorphs).

During January 22 and 23 there was a slight improvement in the clinical condition. Toxaemia was less but the cyanosis was still pronounced. X-ray examination showed involvement of the whole left lung.

On the night of January 24 the patient, after a bout of coughing, complained of an empty feeling in the left chest. When seen a few hours later she was found to have a left pneumothorax.

On the morning of January 25 fluid was present in the left chest. Culture of this fluid showed a heavy growth of Gram-negative organisms of the Friedländer group. This organism displayed the same sensitivity characteristics as that isolated from the sputum. X-ray examination showed almost complete collapse of the left lung with a fluid level in the fifth space.

Oral aureomycin was continued. In addition, the pleural cavity was aspirated daily and 100 mg. of aureomycin (intravenous preparation) was injected intrapleurally. In spite of these measures the pus remained thin. An intercostal drain was then inserted and permanent underwater drainage was established (Mr. E. O'Malley).

Regular intrapleural aureomycin was continued for many weeks, without rendering the pleural fluid sterile. The lung displayed little inclination to expand, although the quantity of fluid in the chest was gradually diminishing. It was considered that gross pleural thickening had occurred, and that spontaneous expansion was unlikely. On March 14 Mr. M. D. Hickey was consulted and the patient transferred to Rialto Chest Hospital on March 19. Daily aspiration of the pleural cavity was continued until April 17, when decortication was performed by Mr. Hickey. The operation was followed by almost complete expansion of the lung, with the exception of a small pocket in the lower anterior chest. This pocket was aspirated repeatedly.

By the end of May the sputum had decreased in amount and it had become increasingly difficult to aspirate any fluid from the pocket. During this time physiotherapy was carried out in an effort to promote complete expansion. On May 30 4 oz. (110 ml.) of very offensive sputum was coughed up; in this way her empyema pocket was emptied through a bronchial fistula. The amount of sputum immediately fell to a trace, and further attempts at aspiration of the pleural cavity were negative.

She seemed now to have achieved good expansion, although there was radiological obliteration of her left base, due to pleural thickening. Her general condition was excellent, and she was discharged from hospital on June 20.

When last seen (April, 1952), aeration of the left lower lobe seemed complete. She felt very well and had resumed her household duties.

I wish to record my thanks to Mr. M. D. Hickey and the other members of the staff of Rialto Chest Hospital, Dublin, for their assistance in the management of this case.

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