The prevailing opinion appears to be that pericardial effusion is only rarely a contributory factor in causing enlargement of the "myxoedema heart." Kern *et al.* (1949). describe four consecutive cases of their own in which an effusion was proved by a pericardial tap and air replacement, and they maintain that pericardial effusion is the commonest cause of cardiac enlargement in myxoedema.

Cases of myxoedema with dropsy have been recorded by Mussio-Fournier (1925). Mussio-Fournier *et al.* (1946) have reported one case which also had a pericardial effusion, but they hold that an effusion is a minor factor in the enlarged "myxoedema heart." Bullrich (quoted by Mussio-Fournier *et al.*, 1946) is of the same opinion.

The heart diminishes rapidly with adequate doses of thyroid extract unless another form of heart disease is also present. It is evident that there is usually no true hypertrophy, the enlargement being due to a pericardial effusion or perhaps myxoedema of the heart muscle. Coronary atheroma may be present, due to the high blood cholesterol. Digitalis is not indicated. Congestive failure is relatively rare in "myxoedema heart."

In my case the heart decreased in size considerably, but it did not return to normal, probably owing to the associated hypertension. There was no evidence that the patient's anasarca was due to hypertensive cardiac failure, in that her symptoms and the oedema were completely relieved by thyroid therapy only, and she was well and without signs of heart failure up to the time of writing. The effusions were due to heart failure caused by the myxoedema.

I would like to thank Dr. J. Stranger for kindly allowing me to quote his report of the radiographs.

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Death in Myxoedema Coma

We have previously reported two cases of death due to myxoedema (Le Marquand, Hausmann, and Hemsted, 1953), and four other cases have been reported by Summers (1953). We have since seen an additional case, which confirmed us in our opinion that this is by no means a rare event.

CASE REPORT

A woman aged 70 was admitted to hospital on February 4, 1954. She had had eleven pregnancies, of which there are three surviving children. Some of the confinements were difficult, especially one when the patient had triplets and was desperately ill for five days afterwards. On the other hand, the last pregnancy was uncomplicated. Twelve years ago effort angina was diagnosed, and for ten years the patient had not left her house. Since the death of her husband four years ago she had lived an extremely restricted life, spending most of her time in bed and doing practically nothing for herself. During the last eighteen months her skin had become very coarse and her eyes puffy. In the last month her condition had deteriorated and she had become incontinent. Three days before admission an upper respiratory infection had developed, and on the day of admission she had become confused and noisy.

On admission her pulse rate was 34 (determined by E.C.G.) and the rectal temperature 74° F. (23.3° C.). She was enormously fat. She was drowsy but could be roused; when left alone she fell asleep. Her face appeared swollen. Her voice was coarse and grating. Her scalp hair was scanty and dry; pubic and axillary hair and eyebrows were missing. Her skin was dry and cold. The heart beat was not palpable, the heart sounds being inaudible, and blood-pressure

readings could not be obtained. There was pitting oedema of the legs and arms, and free fluid was present in the abdominal cavity.

Investigations.—Haemoglobin, 14.25 g./100 ml.; white cell count, 3,500/c.mm.; blood urea, 20 mg./100 ml.; blood sugar, 85 mg./100 ml.; plasma cholesterol, 560 mg./100 ml.; plasma chloride, 91 mEq/l.; serum Na, 135 mEq/l.; serum K, 6 mEq/l. E.C.G. showed low voltage of all complexes.

Treatment consisted of thyroxine, 0.5 mg. intravenously, cortisone, 25 mg. four-hourly intramuscularly for a total of 100 mg., penicillin, and electric blankets. There was no response to treatment. The rectal temperature varied between 80 and 82° F. (26.7 and 27.8° C.), and could not be raised above that point. The patient died two days after admission.

Post-mortem examination revealed gross cardiac hypertrophy and advanced coronary atherosclerosis, particularly of the right coronary artery. The gall-bladder was filled with cholesterol stones. The thyroid gland had been replaced by loose fibro-fatty tissue. The pituitary gland was thought to be slightly larger than normal. Other organs examined showed no macroscopic evidence of disease. The post-mortem weights were as follows: heart, 620 mg.; lungs, 1,100 g.; suprarenals, 14 g.; thyroid and surrounding fibrous tissue, 10 g.

Histological Examination.—The pituitary gland showed a marked reduction of alpha cells in all areas examined. In the thyroid gland small foci of thyroid tissue were surrounded by loose fibrous tissue; an occasional small acinus with a trace of colloid was present; small-cell infiltration was marked and giant cells were present; the surrounding arterioles showed hyaline degeneration. The left ventricular muscle showed a mild degree of interstitial fibrosis. The liver was slightly fatty. In the kidneys there was no evidence of interstitial fibrosis; the glomeruli appeared healthy; the smaller vessels showed hyaline degeneration. Moderate numbers of heart-failure cells were present in the lungs. Death was due to myxoedema and coronary atherosclerosis.

COMMENT

This case showed very similar features to the other reported cases. Again it was the middle of winter. There was extreme hypothermia. We think that 74° F. (23.3° C.) must approach a record in low temperature. To make sure that this reading was correct the thermometer was checked at the Department of Chemistry, University of Reading, and there it was found that the readings were correct to within $\pm 0.5^\circ$ F. Again there was a history of years of slow deterioration which finally led to coma under the stress of an upper respiratory infection. We were impressed, in this case also, with our helplessness to deal with the final phase.

We wish to thank Dr. A. L. Tarnoky for permission to publish the biochemical results; also Dr. I. Doniach for helpful advice.

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The West Kent Medico-Chirurgical Society was founded in 1856 by the medical staff of the Royal Kent Dispensary. The Society's *Centenary Handbook* says this of its founders: "That they were robust as well as generous personalities there is no doubt. It is recorded that they did not hesitate to differ on matters of principle with the governors on occasion. How pleasant to read the tactful Victorian minute, 'The misunderstanding was readily adjusted by two special meetings held at the Green Man, Blackheath, under the presidency of the Rt. Hon. Lord Bexley'! Here is a hundred-year-old lesson, if need be, for modern staffing and management."