reached us, reporting the preparation of sera which precipitate foetal haemoglobin specifically from aqueous solutions The relation of these precipitins to our agglutinin remains to be determined. Chernoff reports that in one normal pregnant woman 2% of the total haemoglobin was present in the foetal form, whereas in twelve others the percentage was below 0.85, the upper limit in normal adults being 1.3. Since we have shown cord red cells to produce agglutinin in rabbits and the American authors have demonstrated foetal haemoglobin to be antigenic, it will be important to consider the possible consequences of transplacental introduction of such materials into the circulation of human mothers.

Summary

By the injection into rabbits of human cord blood cells, an antiserum has been prepared which agglutinates specifically the red cells of cord blood and of newborn infants.

We are grateful to Dr. R. R. A. Coombs for the supply of goat anti-rabbit-globulin serum and to the medical and nursing staff of the Department for Midwifery and Diseases of Women, St. Bartholomew's Hospital, for making available blood samples and helping in their collection. One of us (H. L.) thanks the Medical Research Council for a grant towards expenses.

REFERENCES

Chernoff, A. I. (1953). *Blood*, **8**, 399, 413.
Goodman, M., and Campbell, D. H. (1953). Ibid., **8**, 422.
Itano, H. A. (1953). *Science*, **117**, 89.
Schneider, R. G., and Levin, W. C. (1950). *Proc. Soc. exp. Biol. N.Y.*, **75**, 110.
Singer, K., Chernoff, A. I., and Singer, L. (1951). *Blood*, **6**, 413.

ALCOHOL-INDUCED PAIN IN HODGKIN'S DISEASE

BY

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Alcohol, when taken by patients with Hodgkin's disease, may in some cases give rise to severe pain. When present this symptom is of considerable clinical value—by focusing attention to areas of active disease, and by serving as a reliable guide when judging response to treatment. No mention is made of this curious intolerance to alcohol in any of the classical textbooks or monographs dealing with Hodgkin's disease, and no case report describing this symptom seems to have been published in this country so far. Only two references to this subject could be traced in the medical literature (Hoster, 1950; Verbeeten, 1952).* Hoster, in America, referring briefly to this phenomenon in one of his articles on Hodgkin's disease, states that in a number of his cases pain occurred or, if already present, was increased at the site of Hodgkin's deposits shortly after intake of alcohol-containing drinks, and that such pain was frequently replaced by localized anaesthesia if adequate amounts of alcohol were taken. Verbeeten, in Holland, quotes case histories of four patients with Hodgkin's disease (three male and one female) who suffered pain of such intensity after drinking alcohol that they all became teetotal. After *x*-ray therapy one of these patients was able to take alcohol again without ill-effects; no information is given on the fate of the other three cases.

*Since the submittance of this paper a similar report, describing nine cases, has been published by two Danish authors (Bichel, J., and Bastrup-Madsen, P., *Lancet*, 1953, **1**, 764).

In view of the scanty published data on the subject, the following two cases are placed on record.

Case 1

A housewife aged 37 was referred to hospital in February, 1951, with painless enlargement, for the past two years, of glands at the base of the neck which had suddenly begun to increase in size very rapidly during the previous month.

On examination she was found to be in excellent general health. The glands in the left posterior triangle were enlarged and there was a fixed mass, the size of a billiard ball, in the right supraclavicular fossa. Section of cervical glands showed Hodgkin's disease. An *x*-ray film of the chest showed enlargement of the right paratracheal glands. A course of *x*-ray therapy to cervical and supraclavicular areas as well as to the mediastinum was given in March, 1951, with resulting complete regression of all enlarged

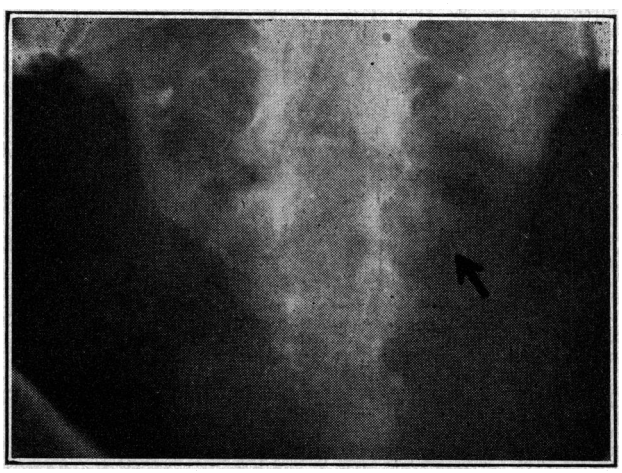

FIG. 1.—Case 1.

lymph nodes in the treated areas. She remained well until Christmas, 1951, when, on taking a small sherry, she experienced within a few minutes pain in the region of the coccyx on the left side which was so severe that she had to lie down. The acute pain passed within an hour or so, but the coccyx remained tender for three days. A week later, on New Year's Eve, she had only a few sips of sherry, which within a few minutes were again followed by most distressing pain in the region of the coccyx as before. When examined at the hospital on the following day there was marked tenderness on palpation in the left sacro-coccygeal region, but a radiograph of the coccyx at that time failed to reveal any definite bone disease. She was asked to have a sip of sherry in order to confirm the suspected relationship between pain and intake of alcohol. The resulting pain was so severe on this occasion that she decided to give up drinking alcohol altogether.

She remained well in herself throughout 1952, but continued to complain of slight tenderness on pressure in the left sacro-coccygeal region. She broke her 11 months' abstinence for the first time on December 9, 1952, when she had a cherry brandy. Within six minutes she was in terrible pain and "could not sit, stand, or walk." Finally, the severe pain was relieved by the patient lying in a hot bath. She was seen at the hospital within a week of this, and *x*-rayed again. Dr. Franklin reported as follows: "There is considerable bone destruction in the left sacro-coccygeal region, the appearances being consistent with the presence, in this region, of a lymphadenomatous deposit" (Fig. 1). A course of *x*-ray therapy to the affected left sacro-coccygeal region was started on December 31, and within two weeks the pain on taking alcohol was only very slight, and by the end of the three-weeks course she was able to take even large amounts of alcohol with impunity.

Case 2

A housewife and schoolteacher aged 25 was referred to hospital in July, 1952, with an indefinite history of lassitude and tightness in the chest of seven months' duration. She was unwell during this time, but it was only after taking alcohol that she really felt ill with pain in the chest and back. At first she did not connect the pain with alcohol, but during May and June the symptoms became so acute each time she took an alcoholic drink that she gave up drinking alcohol altogether.

On examination she appeared to be in good general health. She was dyspnoeic on exertion and the left upper zone was dull on percussion. There was an enlarged gland in the left supraclavicular fossa. Biopsy of the gland showed Hodgkin's disease. *X*-ray examination of the chest revealed a diffuse opacity filling the whole of the left upper zone and enlarged glands projecting laterally to the right from the upper mediastinum. A course of *x*-ray therapy to the mediastinum and left upper zone in July and August, 1952, was followed by excellent regression of all masses.

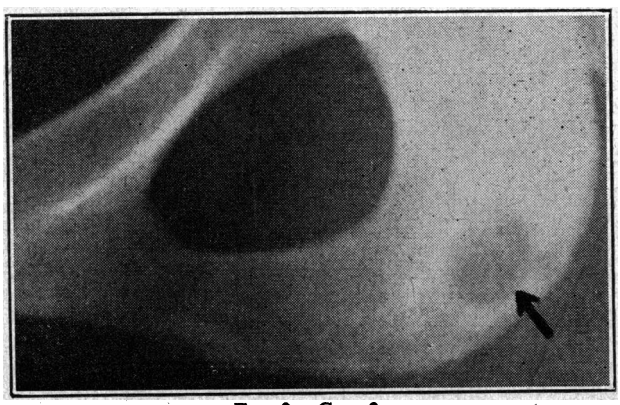

FIG. 2.—Case 2.

The patient took the first glass of sherry within one week of completion of treatment with no ill effects. For almost two months she was able to take alcohol with impunity. Then suddenly, in October, after a drink, she experienced acute pain in the region of the left buttock, and, after having a similarly painful experience on two more occasions, again gave up drinking alcohol. An *x*-ray film of the left ischium on November 17 showed the presence of an oval translucent area consistent with appearances of a lymphadenomatous deposit (Fig. 2). A course of *x*-ray therapy to the left ischium was given, and, as before, the patient was able to take alcoholic drinks without any ill effects within a week of completion of the treatment.

Discussion

In both cases alcohol produced localizing signs pinpointing, as it were, the site of active lymphadenomatous deposits in advance of clear-cut radiographic changes. Successful treatment, in both cases, was associated with instantaneous disappearance of symptoms which once more preceded the return to normal of radiographic appearances. Such individual hypersensitivity to alcohol, which seems to be confined to sufferers from Hodgkin's disease, is therefore of considerable clinical value as it may serve to betray the presence of active lymphadenoma at a time when the disease gives rise to few signs and so make possible early diagnosis and institution of appropriate treatment before symptoms become severe and unmistakable. The result of treatment in turn may be assessed by means of an alcoholic "test drink," a novel and probably not unwelcome form of investigation to the patient. It may prove useful to include such "diagnostic drinks" among the routine investigations carried out when following up cases of this type and to instruct the patients to report immediately should at any time intake of alcohol be followed by severe pain. What produces the pain in Hodgkin's disease, and whether it is due to localized oedema as suggested by Hoster (1950), is an intriguing question. So far there is nothing to suggest that alcohol has a deleterious effect on the course of Hodgkin's disease.

Thanks are due to Dr. Emily L. Franklin, senior consultant radiologist at this hospital, for the many *x*-ray reports, and to Mrs. K. Powell for translation of the Dutch paper. I am also indebted to Miss B. L. de Salis for the radiographs and to Miss L. J. Hunt for the photographic reproductions.

REFERENCES

Hoster, H. A. (1950). *Amer. J. Roentgenol.*, **64**, 915.
Verbeeten, B. (1952). *Ned. T. geneesk.*, **96**, 12.

FATAL ANAPHYLACTIC SHOCK DUE TO PENICILLIN

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Allergic manifestations in reaction to various drugs have long been recognized and present a special problem to every physician. Recently antibiotics, and especially penicillin, have been added to the long list of these drugs, and penicillin, because of its wide application, plays a prominent part. The symptoms of sensitivity to penicillin are varied. Most frequent is an urticarial rash, but other skin lesions have been described. Sometimes a syndrome resembling serum sickness with urticaria, fever, oedema of mucous membranes, arthralgia, and lymphadenopathy appears (Wilensky, 1946; Humphreys, 1951; Wilkes, 1951). All these symptoms respond well to antihistamine drugs or adrenaline.

More serious reactions to procaine penicillin have been described by Batchelor *et al.* (1951) in patients undergoing treatment for the later stages of syphilis. The reaction developed immediately after intramuscular injection of 600,000–1,000,000 units of penicillin (five different preparations were involved), the patient experiencing a sensation of impending death (angor animi) and a feeling of prostration for several hours afterwards. There was no circulatory disturbance (pulse and blood pressure normal), respiratory embarrassment, or pain. They stress these facts in order to differentiate this reaction from a similar syndrome with a disturbance of circulation and angor animi associated with severe anaphylactoid reaction. On the other hand, several cases of non-fatal anaphylactic reactions after penicillin have been reported (O'Donovan and Klorfajn, 1946; Burleson, 1950; Mayer *et al.*, 1953), but few cases of sudden death following penicillin and attributed to hypersensitivity have been published.

The first fatal case recorded in Great Britain occurred in a 14-months-old healthy child who had been treated for burns and who died, five days after the penicillin treatment was begun, of cardiac tamponade due to serous effusion into the pericardium. There was also serous effusion into the pleural cavities. During the five days before death swelling of the face, pyrexia, and a diffuse skin rash occurred. The coroner recorded the cause of death as cardiac tamponade due to hypersensitivity to penicillin (*British Medical Journal*, 1951).