amounting only to 1.85 per cent. The oxygen was continued, and the next day the patient had the crisis.

CASE III.—*Acute Exacerbation of Chronic Bronchitis.*

This patient was suffering from an acute exacerbation of a chronic bronchitis associated with moderate cardiac failure. There was slight orthopnoea and cyanosis, with an irregular distribution. The hands and ears were purplish in hue, while the lips were only slightly so. The arterial blood was unsaturated with oxygen to 10.9 per cent. Two litres of oxygen a minute were administered by the Haldane apparatus during the next twelve hours, when the cyanosis had completely disappeared, and the orthopnoea was practically gone. The arterial blood at this time was unsaturated with oxygen to 3.01 per cent.

EFFECT OF OXYGEN INHALATION IN HEALTH.

The degree of unsaturation with oxygen of the arterial blood of five normal cases was determined. It was found to average 5.1 per cent., ranging from 4.4 per cent. to 5.6 per cent. It will be noticed that in the pathological cases outlined above the arterial blood oxygen unsaturation showed an appreciable decrease from normal when a sufficient oxygen concentration of the inspired air was administered. Therefore it was considered of importance to determine whether the administration of oxygen would reduce the oxygen unsaturation of the arterial blood of a normal person. Arterial blood of a normal adult was examined and the oxygen unsaturation was found to be 4.4 per cent. Two litres of oxygen a minute were administered by the Haldane apparatus for 100 minutes and the arterial blood again tested for the arterial oxygen unsaturation, which was then found to be only 1.87 per cent. This confirmed the previous observations in the abnormal cases that the inhalation of inspired air sufficiently enriched with oxygen may diminish the oxygen unsaturation of arterial blood beyond the normal limits.

CONCLUSIONS.

1. In certain respiratory diseases where there is anoxaemia of the arterial blood the efficient administration of oxygen will diminish this anoxaemia and so relieve the cyanosis.
2. If the oxygen be given in sufficient concentration in the inspired air the arterial saturation with oxygen may be raised above normal.
3. This result may be obtained both in normal individuals and also in certain of those suffering from certain respiratory diseases.

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CUTANEOUS MANIFESTATIONS IN A CASE OF CERVICAL FISTULA.

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THE following case raises some points of general importance:

In September, 1919, Nurse M., aged 30, consulted me for loss of hair, and complained of being "run down." I found falling of the hair of the scalp and eyebrows and some loss of eyelashes. The skin generally was dry and rather scaly; the cheeks were not flushed, but the complexion was muddy and the face wanting in expression; the voice was normal. The front and sides of the neck, as well as a V-shaped exposed portion of skin over the sternum, were very red, suggesting at first sight sunburn, but on closer inspection the redness was seen to be due to dilated venules without heat, swelling, oedema, or pigmentation. On the right side above the head of the clavicle was a very white patch 2 in. in diameter and nearly circular; it resembled leucoderma, but there was no trace of excessive pigmentation at its margin as occurs in true leucoderma.

Below and internal to the centre of this white area was a round puckered patch of thin skin about 1.5 cm. in diameter, situated about 1.5 cm. above the head of the right clavicle and nearly 3 cm. from the middle line of the neck. On deglutition, this bit of overstretched skin was drawn in and formed a tubular dimple, half an inch deep. Several medical men had, the patient stated, seen it and been unable to explain it. Passing upwards, backwards, and inwards, I felt a firm round

band apparently as large as a No. 2 gum-elastic catheter. She said she was liable to occasional regurgitation of matter into her mouth "like the discharge from a gumboil." The diagnosis was obvious—a pouch at the upper end of a cervical (branchial) fistula. She stated that her father told her that her "grand-mother had something like it." I prescribed a lotion for the scalp, and internally iron and one grain of thyroid extract at bedtime.

When seen on November 17th she looked and said she felt much better, had found benefit quickly from the treatment and release from nursing a mental case. Her complexion was clear, colour good, and the hair had much improved. The redness of the neck had nearly gone, and there was now no contrast between white and red. The overstretched (often so-called atrophic) skin had become red, as if recovering normal nutrition. The round, firm, rod-like band was thinner and more distinctly fibrous. The dimpling on deglutition was not so marked, only a quarter of an inch.

A few years previously the patient had the appendix removed and after the operation was told that she had better never take another anaesthetic, as she had then taken it badly. Seven years ago she had "faintings and a suspicion of hyperthyroidism and mitral disease." She believes the cervical fistula discharged, until the age of ten years, through a little lump the size of half a pea. Sometimes, if she leans forward on a stiff collar, "a discharge is felt coming from the throat into the mouth." I think the right thyroid was more prominent than it was in September (two months earlier).

I do not think I ever met with such a change in nutrition before and in such a short time; the oddest point to me being the change found in the round ligamentous band and its attachment to the skin. Is Nature trying to absorb the band or reopen it as a sinus? It is so obvious that the patient, whose physique is otherwise good, is having her health ruined by the filthy pouch that I have passed her on to a surgeon's care.

The red area of skin on the sides and front of the neck, already referred to, was too peculiarly localized and delimited to be attributable solely to exposure to light and weather. It corresponds to the area of referred "choking pain" described by Head in connexion with the passage of an oesophageal bougie.¹ It is also a blushing area, as is well shown in some young women. That vasomotor pathological changes should take place there is not so surprising when we consider that it is probably at the "seaming-up of the segments" that such affections as linear naevi, ichthyosis hystrix, linear papillomata, and even occasionally lichen planus (in lines) occur. In one very rare case I have seen a line of lichen planus reached from the hip to the foot. No one nerve or blood vessel will account for such changes of distribution, but "the seaming-up of segments" and the closing of clefts during fetal life give a clue. During last year I called attention to a rare form of tuberculide, and suggested for it the clinically descriptive term "lichenoid." It closely imitates lichen planus and tends to develop in lines.

REFERENCE.

- ¹ *Brain*, 1893, vol. xvi, p. 1, and Fig. 12, p. 364.

Mentoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SUBCUTANEOUS RUPTURE OF THE SUBCLAVIAN ARTERY.

ON January 16th, 1918, a heavy, muscular man, aged 48, weir keeper at one of the up-river locks, was hurriedly pulling up one of the sluices during rising water when he suddenly felt a severe pain in the right arm and at once experienced considerable loss of power. There was no mark of injury and no swelling to be detected, but the whole hand and forearm felt cold, numb, and weak, and he had to stop work at once. Five weeks after the injury I found that the right arm was quite cold and pale. There was no muscular wasting, and all ordinary movements could be carried out with precision. No pulse at all could be detected anywhere in the arm from the axilla downwards, but the subclavian pulse was readily felt and appeared to be equal to that on the other side. No aneurysmal or other swelling could be detected, and, in fact, beyond the absence of pulse and the pallor and chilliness of the arm, nothing abnormal was to be found. There was no evidence of any cardio-vascular disease.