Intestines.—The appendices epiploicae of the transverse colon were swollen and haemorrhagic. The mesentery contained many calcareous masses as large as small haricot beans. The lymphatic glands were not enlarged. The presacral haemolymph glands were enlarged.

Kidneys.—Weighed 7 oz. each. On section they were pale in colour and in the pyramidal portion of each kidney were two pale-green areas about the size of a large pea. The other abdominal organs were apparently normal.

Marrow.—The shaft of the tibia contained marrow of a pale yellow colour with complete absence of any red coloration; that in the head of the tibia was pale yellow. The marrow of the ribs and sternum was greyish-brown in colour.

Microscopic Examination.

Heart.—The spaces between the muscular bundles were infiltrated with leucocytes of the myeloblastic type.

Liver.—The periphery of the lobules was packed with cells with the appearance of myeloblasts. Much free brown-coloured pigment was present towards the periphery of the lobules.

Kidney.—A section through one of the pale-green areas mentioned above revealed a mass of cells resembling myeloblasts closely packed together, with atrophy of the uriniferous tubules. Other portions of the kidney were almost entirely free from blood cells.

Spleen.—The Malpighian bodies were apparently normal. In the pulp were many myeloblasts and much free brown pigment.

Marrow.—Smear. Almost all the cells were myeloblasts. No nucleated reds or polymorphonuclears could be seen.

Section (after hardening). The bulk of the cells seen were myeloblasts. A few eosinophile myelocytes, an occasional normoblast, and an occasional giant cell, but no polymorphonuclears, were to be seen. On attempting to stain a hardened section of the marrow from the shaft of the tibia the section almost completely dissolved in the xylol, leaving only amorphous débris.

In conclusion, I should like to express my best thanks to Deputy Surgeon-General H. W. G. Doyne, R.N., for his kind permission to publish the case, and to Staff Surgeon S. F. Dudley, R.N., for his ungrudging work in preparing the sections and much valuable advice.

GRAFTING WITH FROG SKIN.

BY

H. W. M. KENDALL, CAPTAIN R.A.M.C.(T.C.).

THE idea of grafting granulating surfaces with frog skin was put into practice by me as far back as 1886-7 in India, at Cluniar, Bengal, where some of the men were affected by ulcer of the legs more or less indolent in character. I cannot say certainly now how I got the theory, but think it was suggested through some native source. At any rate, as frogs, ulcers, and time were plentifully at my disposal, I experimented, with satisfactory results to the patients, gratification to myself, and the least possible inconvenience and injury to the frogs. My reason for recalling the matter is that being quartered in France, where demand and supply of material are both abundant, I have been enabled to reapply the method with again the same gratifying results. The large number of open granulating wounds, caused chiefly by shrapnel, which are slow in healing and in which a contracting scar is likely to give possible inconvenience later on account of position, friction, etc., induced me to resort again to this method of grafting. During the past month I have collected fourteen cases as follows:

1. Sgt. W. S. Shrapnel wound, left thigh, July 14th, Contalmaison. Graft applied August 6th. Unsuccessful. This wound was suppurating profusely and the graft did not adhere. Another was applied August 17th; healed August 30th.

2. Pte. A. G. Shrapnel wound, right thigh, July 7th. Grafted August 27th; healed September 2nd.

3. Pte. H. J. Arm grafted August 5th; healed September 2nd.

4. Cpl. G. D. Shrapnel wound, left arm, July 15th. Grafted August 3rd; healed August 25th.

5. Pte. J. S. W. Shrapnel wound, right arm, July 24th, Beaumont Hamel. Grafted August 6th; healed August 17th.

6. Pte. W. B. Bullet wound, left upper arm, High Wood. Grafted August 3rd; healed August 19th.

7. Sgt. A. F. Bullet wound, right upper arm, July 18th, Longueval. Grafted August 3rd; healed August 20th.

8. Lce-cpl. F. R. Shrapnel wound, left arm, Thiepval Wood. Grafted August 3rd; healed September 2nd.

9. Gnr. E. S. Wounded by bomb, July 3rd, Aveluy. Grafted August 24th; healed September 2nd.

10. Pte. A. E. McD. Bullet wound across left breast, July 25th, at Pozières. Grafted August 26th; healed September 8th.

11. Pte. G. F. H. Bomb wound left buttock, July 20th, Armentières. Grafted August 24th; unsuccessful.

12. Pte. E. E. T. Shrapnel wound, back, July 25th, Ypres. Three grafts applied August 17th; healed August 30th.

13. Pte. A. T. M. Gunshot wound, back, July 25th, Festubert. Two grafts applied August 17th; healed August 30th.

14. Pte. R. I. S. Shrapnel wound, side, July 4th, Pozières. Three grafts applied August 26th; one successful, healing well at date.

The above wounds varied roughly from $1\frac{1}{2}$ in. to 4 in. in length by $\frac{1}{2}$ in. to $1\frac{1}{2}$ in. in breadth. No. 1 was unsuccessful on account of the condition of the wound at the time of grafting, the profuse suppuration washing off the graft. In No. 11, the wound being on the buttock, dressings were difficult to keep in position, and in No. 14 two out of the three grafts failed to adhere for the same reason.

The ideal wound to graft is flat, without much suppuration or excessive protuberant granulations. The rapidity with which the wound commences to heal after the graft has successfully adhered is in marked contrast to its sluggishness before the operation.

The wound having been gently cleaned without antiseptics and as gently dried, the loose skin on the inner side of the frog's thigh is carefully pinched up in a pair of dressing forceps, snipped off with scissors, spread out and applied by its under surface to the wound. A strip of gutta-percha tissue smeared with some mild and soft non-irritating emollient is then placed over it, fixed in position at its ends by adhesive plaster, and a dry dressing applied over all. The whole is gently removed in three days, when the site of the graft will be noticed as a purplish spot branching outwards to the periphery of the wound. A similar dressing is again applied for two days to avoid unnecessary interference, after which the wound may be dressed daily, without the gutta-percha tissue, with some simple, non-irritating ointment, such as boracic, until healing is completed.

The gap in the skin's continuity is by this process filled up and unsightly or inconvenient contraction avoided.

I have tried frog skin grafting once only in this interval of thirty years, in New Zealand, after a radical mastoid operation, but have no knowledge of the ultimate result as the patient left, I believe, for her home in Germany shortly afterwards.

In addition to leaving a supple scar this method has the advantage of transplanting skin free of hair, and is free of diseases possibly conveyed in human skin. My reason for not using antiseptics is to avoid destroying the delicate epithelium formed from the graft in the same way that injudicious antisepsis may render a vaccination inert.

I think the method would prove useful in many kinds of slowly healing sores, varicose ulcers with or without a tendency to adhere to the bony tissues beneath, burns after the acute stages have passed, large abrasions or ulcerating surfaces on the face or exposed parts or in mastoid cavities where transplantation of skin is indicated.

THE USE OF GLYCERINE AND ICHTHYOL IN THE TREATMENT OF SEPTIC WOUNDS.

BY

MAJOR THOMAS W. A. DAMAN, R.A.M.C.(T.F.).

In the case of some wounds more or less septic it does not seem to matter much what kind of dressing they receive. They will heal, and nothing, so to speak, in the way of wet or dry dressing will prevent their healing. Those in which the circulation has been originally extensively interfered with, or where extensive induration has taken place in consequence of sepsis and of the blocking of vessels, will not heal readily under the ordinary methods of dressing.

At the Military Hospital, Lincoln, under Major Duggan, remarkable and altogether surprising results are the rule, especially in cases of severe suppuration and sloughing accompanied by oedema and induration of the surrounding tissues. The immediate results are rapid reduction of swelling and induration, and almost instant easing and removal of pain. Rapid cessation of sepsis and of purulent discharge follows, accompanied by the quick formation of