

Before the "hyperdynamic beta-adrenergic circulatory state" is allowed to emerge as a new entity it should be separated more clearly from the more familiar anxiety state, and observations of proved value such as the sleeping pulse rate and the response of the blood pressure and pulse rate to sedation should be recorded. However, these cases, and other published reports^{3, 4} to which Frohlich and his colleagues draw attention, indicate that further investigation might yield useful information about some sinus tachycardias and modify the rationale of their management.

Stapling Machines

As surgical operations become more complex and time consuming, many minds are turning to ways other than conventional needle and thread for both gastrointestinal and vascular anastomoses. In 1960 L. Adam demonstrated the use of a machine to close the duodenal stump with silver staples. Subsequently a large number of stapling machines were introduced, of which perhaps the best known was that of A. von Petz,¹ which, though it had its enthusiastic advocates, has now fallen practically into disuse.

During the last 15 years a series of instruments for suturing a variety of tissues with tantalum staples has been developed at the Research Institution of Experimental Surgical Apparatus and Instruments in Moscow. The use of such a machine in gastric resection has been fully reported recently in English by J. J. Gritsman.² It is used first to invert and close the duodenal stump with two rows of fine tantalum staples. Difficulties are encountered in closing the duodenum in the presence of a large ulcer or marked inflammatory changes, but this occurred in only 2% of Gritsman's patients. The proximal jejunum is then tacked to the gastric stump with a couple of sutures, a small nick is made in the walls of the two organs, the stapling machine inserted and closed, and then a wedge knife advanced to divide the connecting walls of stomach and jejunum between the two rows of staples. All that is then needed is a purse-string suture to close the site of insertion of the machine.

In over 1,600 gastrectomies performed with this apparatus in a large number of medical institutions in the U.S.S.R. the overall mortality rate was 2%, which compares satisfactorily with results obtained in collected series using conventional techniques.

Perhaps even more ingenious are machines, which work on a similar principle, devised at the same institution for suturing blood vessels.³ Approximately 2 cm. of each end of the

vessel is mobilized; the ends are everted and held on the bushings of the apparatus, apposed, and the two ends fixed by a series of U-shaped clips of tantalum wire 100–200 microns in diameter. These are passed through the everted edges and are bent into a B shape. P. I. Androsov³ was able to report the use of this apparatus in the repair of 29 damaged arteries and the resection of 42 traumatic aneurysms. A similar device was also described by K. Inokuchi.⁴

These machines have the advantage of considerable speed, and they can be used by surgeons with relatively little training. However they are difficult and fiddling to assemble, they require careful maintenance, and they fail when used on badly diseased tissues; they are of little value, for example, in suturing severely atherosclerotic blood vessels. Their great value may lie in the field of transplantation when multiple and rapid anastomoses are required.

Perhaps the future lies more with the development of plastic adhesives. These are monomers which are catalysed by minute amounts of moisture to solid polymers without the use of heat, excessive pressure, or a solvent—and which once set are resistant to most organic solvents.

Already considerable work has been carried out, both experimentally and clinically, using methyl-2-cyanoacrylate and methyl-alpha-cyanoacrylate in gastro-intestinal,^{5, 6} pulmonary,⁷ and vascular surgery,^{8–10} but these materials produced considerable tissue reaction and intramuscular thrombosis.^{11–13}

Undoubtedly there is a great potential for a tissue adhesive which is non-toxic and non-irritating, and already more promising results have been reported with alpha-methyl-cyanoacrylate¹⁴ and isobutyl cyanoacrylate.¹⁵ But until the perfect adhesive appears most surgeons will have to remain content with their needles and thread.

Londonderry Meeting

Next year's Annual Clinical Meeting will be the first to be held in Ireland—at Londonderry from 13 to 15 April. It will be held in association with the Society of Occupational Medicine. As the programme (which is printed at p. 219 of this week's *Supplement*) shows, the meeting will cater for a wide variety of interests and tastes. A particularly topical subject is the plenary session on "How Can We Best Use Our Medical Resources?", while that on "Hazards of Modern Farming" should help to alert many doctors to a problem which is causing growing concern. The meeting will begin with an opening address by Lord Robens of Woldingham in the Guildhall on 13 April, and on the following day there will be meetings on head injury, medicine and the society offender, doctors in law, and the management of chronic renal failure. The symposium on the morning of 15 April is concerned with the "positive approach to general practice."

Other features of interest will be a series of clinical demonstrations, a general practice exhibition, and a continuous programme of medical films. There will be the usual attractive social events, and a ladies' programme has been arranged. The meeting also coincides with the Londonderry Arts Festival, and it will be possible for members and their wives to attend some of the events. This meeting gives doctors an excellent opportunity to hear some of the leading experts on several important subjects, and to combine this with a spring holiday in an attractive country in the sterling area. They are advised to make their bookings early.

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⁴ Inokuchi, K., *ibid.*, 1958, 77, 954.

⁵ Seidenberg, B., Garrow, E., Pimental, R., and Hurwitt, E. S., *Ann. Surg.*, 1963, 158, 721.

⁶ Vasko, J. S., and Brockman, S. K., *ibid.*, 1965, 162, 123.

⁷ Healey, J. E., Sheena, K. S., Gallagher, H. S., and Clark, R. L., *ibid.*, 1964, 159, 172.

⁸ Carton, C. C., Kessler, L. A., Seidenberg, B., and Hurwitt, E. S., *Wild Neurol.*, 1960, 1, 356.

⁹ Nathan, H. S., Nachlas, M. M., Solomon, R. D., Halpern, B. D., and Seligman, A. M., *Ann. Surg.*, 1960, 152, 648.

¹⁰ Hafner, C. D., Fogarty, T. J., and Cranley, J. J., *Surg. Gynec. Obstet.*, 1963, 116, 417.

¹¹ Raekallio, J., and Seligman, A. M., *J. surg. Res.*, 1964, 4, 124.

¹² Weissberg, D., and Goetz, R. H., *Surg. Gynec. Obsiet.*, 1964, 119, 1248.

¹³ Woodward, S. C., Herrmann, J. B., Cameron, J. L., Brandes, G., Pulaski, E. J., and Leonard, F., *Ann. Surg.*, 1965, 162, 113.

¹⁴ Ota, K., Mori, S., Koike, T., and Irou, T., *J. surg. Res.*, 1965, 5, 453.

¹⁵ Padula, R. T., and Ballinger, W. F., *Surgery*, 1965, 57, 819.