when acid secretion is absent or low—that is, in infancy or old age, and this is clearly a much more severe inflammation than the mild recurring heartburn of middle age. It looks, in fact, as if a fair secretion of acid/pepsin, diluting any bile reaching the stomach, protects the oesophagus against severe damage. Just under half of 25 unselected patients I studied had gastric atrophy, while two-thirds of the group refluxed overnight a fluid whose pH was more than 4, therefore beyond the range of peptic activity.¹⁶

(6) The route of access for surgery is immaterial, and its discussion hardly worth while. There are several safe operations available, and the abdominal approach is not new.^{5 17-19} These procedures have negligible mortality and give excellent results.

(7) One most fascinating newly opened avenue leading to understanding of a type of oesophagitis concerns the complex of gastric atrophy.²⁰ This is a degeneration of smooth muscle as well as of mucosa, widely affecting the foregut, and leaving the stage well set for biliary oesophagitis, as such patients have high resting concentrations of bile in their stomachs.¹⁴

Could I therefore plead for a spring-clean on this complex of diseases and indeed on all diseases when reviewed in leading articles? Our minds are overbombed with traditional and valueless concepts, and it is particularly important that the coming generation of doctors be spared such a blunderbuss of real and imaginary anatomical and aetiological factors in a disease-complex like this one. We have had to traverse a morass to reach the present state of knowledge. There seems little point in cluttering up the minds of our successors with outdated theories and incorrect facts when they have so much to learn anyway. They should surely be entitled to take over from what is known at present.—I am, etc.,

Lisburn, N. Ireland. GRAHAM J. COLE.

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Treatment of Adder Bite

SIR,—Your interesting leading article on the treatment of adder bites (16 August, p. 730) draws attention to the importance of avoiding infection by making no incisions at the site of the bite. It adds that the application of a tourniquet serves no useful purpose unless there will be a delay exceed-

ing several hours before hospital can be reached.

May I quote from the book by John Visser approved by the executive committee of the Cape of Good Hope College of General Practitioners?¹ This states, under first-aid treatment, "Never apply a ligature after a bite by one of the common adders, but do so after elapid (mamba, cobra, rinkals, etc.) bites." It further explains the reason for this rule: "The ligature or tourniquet is applied to prevent or control the diffusion of venom from the site of the bite. In the case of adder bites, the ligature will, however, aggravate the oedema and anoxia at the site of the bite and thus cause such damage as is 'typically' seen after bites by these species. Ligatures are thus never applied after bites by adders."—I am, etc.,

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Spironolactone in Hyperaldosteronism

SIR,—In our view the leading article on "Management of Primary and Secondary Hyperaldosteronism" (23 August, p. 427) and your reply to the letter from Dr. M. J. Tidd (4 October, p. 52) gave a misleading account of the value of spironolactone treatment. We have studied more than 100 patients with hypertension, hyperaldosteronism, and subnormal or low plasma renin concentration (so called "primary" hyperaldosteronism). Forty-five of these have been treated with oral spironolactone in doses ranging from 150 to 400 mg./day (usually 300 mg.) for periods ranging from one month to six and a half years (total 485 months). Spironolactone corrected the electrolyte abnormalities in every patient, and produced a marked fall in blood pressure in most (to 150/90 mm. Hg or less in 24 cases). In the majority of patients the hypotensive effect of spironolactone was closely similar to that obtained by subsequent adrenal surgery; in eight cases spironolactone did not cause satisfactory lowering of blood pressure, and five of these were subsequently submitted to adrenal surgery without any effect on blood pressure.

We can confirm the range of side-effects mentioned in your leading article, but in our experience these are not invariable and rarely incapacitating. The drug had to be stopped in four of our patients, each of whom developed severe anorexia, epigastric discomfort, nausea, and vomiting. Barium meal examination revealed a large gastric ulcer in one of these patients; while this might have been an incidental lesion it is noteworthy that this 64-year-old patient had not experienced similar symptoms before spironolactone, and she had remained symptom-free since the drug was stopped 15 months ago. Our experience is that spironolactone in the treatment of primary hyperaldosteronism provokes fewer and generally less troublesome side-effects than do "conventional" hypotensive drugs in the treatment of other hypertensive patients. We agree that in most patients adrenalectomy is

the treatment of choice after the electrolyte abnormalities have been corrected by spironolactone therapy, but we wish to emphasize that prolonged treatment with spironolactone offers an efficient alternative therapy when surgery is contraindicated. Aldosterone-producing adenomata are sometimes small, and extensive dissection may endanger the adrenal blood supply, thus leading to total adrenalectomy with consequent dependence on corticosteroid replacements. Long-term treatment with spironolactone may well be preferred in cases of this type, and also perhaps in those in whom micronodular changes occur in both adrenal glands.

A preliminary account of some of these observations has been presented elsewhere.¹—We are, etc.,

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Automation in the Laboratory

SIR,—Your correspondent Dr. R. B. Niven (13 September, p. 656) draws attention to the delay in laboratory reports, and suggests British research could produce a system giving results in hours rather than months.

The problem is dealt with in *Abstracts of Efficiency Studies in the Hospital Service*.¹ The method of choice is one using N.C.R. (no carbon required) paper—no typing is carried out—and is similar to the national form now used for exfoliative cytology requests.

The average delay between obtaining results of tests and the dispatch of reports is now negligible. One consequence of this improvement is that fewer telephone inquiries are made to the individual laboratories, which saves the time of the technical and clinical staffs.—I am, etc.,

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REFERENCE

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Fibrinolysis and Toxaemia of Pregnancy

SIR,—The report by Drs. E. N. Wardle and I. S. Menon (7 June, p. 625) is of interest to those who associate pre-eclampsia with alterations in the coagulation and/or fibrinolytic systems. We have emphasized¹ that much of the confusion and lack of basic knowledge regarding the pathogenesis of "toxaemia" stems from the fact that few investigators have clearly defined their test populations. Thus Drs. Wardle and Menon studied 20 patients with hypertension and 23 patients with pre-eclamptic toxemia, "... defined as proteinuria together with oedema