

# South African Medical Journal

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### EDITORIAL

#### GASTRIC AND INTESTINAL BIOPSY

Until recently it was very difficult to obtain a specimen of mucosa from the stomach without an open operation, and unless an operating gastroscope was passed it was only at laparotomy that an intestinal biopsy could be made. Nor was it felt that these were necessary procedures; only since the development of per-oral biopsy tubes has the living histology of the upper gastro-intestinal tract been subjected to adequate study.

In 1949 Wood *et al.*<sup>1</sup> described their technique of gastric biopsy through the use of a thin flexible tube. After the throat has been sprayed with a local anaesthetic the instrument is passed into the stomach; a knuckle of mucosa is then sucked into the distal side-vent and sliced off by a blade situated at the end of the tube. The simple controls are easily operated from the other end of the instrument. The small size of the distal opening limits the amount of tissue that can be obtained and practically eliminates the danger of perforation of the viscus. The specimen usually consists of mucosa with just a little submucosa. In practice the technique has proved both reliable and safe; Joske *et al.*,<sup>2</sup> whose series of 1,000 cases is the largest recorded, had a success rate of 95%. The sole complication they noted was haemorrhage, which occurred in only 0.8% of successful biopsies, transfusion being required in 1/5th of the cases that bled.

On the whole this technique has theoretical rather than practical usefulness. It has no place in the diagnosis of carcinoma, as it is not possible to direct the orifice of the tube to a desired area, nor does the state of the gastric mucosa help in the diagnosis of localized conditions like peptic ulcer. The existence of a condition 'hypertrophic gastritis', which gastroscopically was a favourite diagnosis, has not been verified by biopsy. Three categories of gastritis are now described: superficial gastritis, atrophic gastritis and gastric atrophy.<sup>2</sup> In superficial gastritis the mucosa is of normal thickness and is infiltrated with inflammatory cells; in some cases there is also a slight degree of tubular atrophy. Atrophic gastritis is diagnosed when the mucosa is narrowed, contains many goblet cells, and shows moderate-to-severe inflammatory-cell infiltration; the tubules are decreased in amount. In gastric atrophy the mucosa of the stomach is greatly narrowed and resembles that of the

### VAN DIE REDAKSIE

#### MAAG- EN DERMBIOPSIE

Dit was tot onlangs nog altyd baie moeilik om sonder 'n oop operasie 'n monster van die slymvlies van die maag te bekom en, tensy 'n 'opereer'-maagspieël gebruik was, was dit slegs by laparotomie dat 'n dermbiopsie uitgevoer kon word. Ook was hierdie prosedures nie as noodsaaklik beskou nie; dit is maar slegs sedert die ontwikkeling van mondelike biopsie-buise dat die lewende histologie van die boonste gedeelte van die maagdermkanaal noukeurig bestudeer kon word.

In 1949 het Wood *et al.*<sup>1</sup> hulle metode van maagbiopsie, nl. die gebruik van 'n dun buigsame buisie, beskrywe. Nadat die keel met 'n plaaslike verdowingsmiddel besproei is, word die instrument tot in die maag gevoer; 'n gedeelte van die slymvlies word dan in die distale sy-gleufie opgesuig en afgesny met 'n dun messie wat aan die end van die buisie geleë is. Die eenvoudige kontroles word maklik van die ander end van die instrument gehanteer. Omdat die distale opening so klein is, beperk dit die hoeveelheid weefsel wat afgesny kan word, en die gevaar dat die ingewande deurboor word, word dus feitlik uitgeskakel. Gewoonlik bestaan die monster uit slymvlies en slegs 'n klein bietjie van die onderslymvlies. In die praktyk het hierdie metode betroubaar en veilig geblyk; Joske en sy medewerkers,<sup>2</sup> wie se reeks van 1,000 gevalle die grootste is wat dusver beskryf is, het by nie minder as 95% gevalle sukses behaal nie. Die enigste komplikasie wat hulle teëgekomp het was bloeding, wat slegs by 0.8% van geslaagde biopsies voorgekom het—bloedoortapping was nodig by 1/5de van die gevalle wat aan die bloei geraak het.

Oor die algemeen is hierdie metode van groter teoretiese as praktiese waarde. Dit is nutteloos by die diagnose van kanker omdat dit nie moontlik is om die opening van die buis op 'n gegewe area te spits nie. Ook by die diagnose van plaaslike kondisies soos maagsere is die toestand van die maagslymvlies nie 'n hulp nie. Biopsie betwyfel die bestaan van die kondisie van 'hipertrofiese maagontsteking', wat vroeër dae 'n gunsteling maagspieëldiagnose was. Drie soorte maagontsteking word vandag beskryf: oppervlakkige ontsteking, atrofiese ontsteking, en maagatrofie.<sup>2</sup> By oppervlakkige maagontsteking is die dikte van die slymvlies normaal, met infiltrasie van ontstekingselle; by sommige gevalle is daar ook 'n geringe mate van buisatrofie. Die diagnose van atrofiese maagontsteking word gemaak wanneer die slymvlies verdun is en baie bekperselle bevat en as daar matige tot kwaai infiltrasie van ontstekingselle is; by hierdie soort is daar minder buisies. By maagatrofie is die slymvlies van die maag baie verdun en lyk dit soos dié van die dunderm. Hierdie verandering was vroeër dikwels beskou as kenmerkend van kwaadaardige bloedarmoede alleen, maar dit is 'n onjuiste mening; dit kan tevens ook voorkom by 'n klein persentasie van gevalle van

small intestine. This change has often been thought to be specific for pernicious anaemia, but this view is incorrect; it may also be found in a small percentage of cases of iron-deficiency anaemia.<sup>3</sup> Joske *et al.* performed gastric biopsies on 100 cases of pernicious anaemia, and definite abnormality was found in all: gastric atrophy in 40, atrophic gastritis, usually severe, in 51, and superficial gastritis with tubular atrophy in the remaining 9.<sup>3</sup> These workers also found that, in general, there was a good correlation in their 1,000 cases between histamine-induced gastric secretion and the histology of the mucosa.

There does not appear to be any correlation between gastric changes and clinical symptoms, and therefore gastric biopsy, unfortunately, has not helped in the elucidation of non-ulcer dyspepsia.<sup>4</sup> After gastrectomy one can detect and follow the development of inflammatory and degenerative changes in the gastric mucosa, but the relationship of these to post-operative symptoms is doubtful.

An extension of the idea of gastric biopsy has led to the development of methods of obtaining specimens of gastric and jejunal mucosa. Shiner<sup>5</sup> has modified Wood's gastric instrument; she has fitted a balloon to the distal end (this is inflated once the tube has reached the stomach, to facilitate passage through the pylorus), and the terminal side-vent is narrowed. Unlike the gastric tube, this instrument has to be passed under fluoroscopic control. Very low suction is used; this, and the smaller opening, ensures that the danger of perforating the thin intestine is minimal. The main use of this technique is in the study of mucosal changes in the sprue syndrome, thus obviating the necessity for laparotomy when this or Whipple's disease is suspected.<sup>7</sup>

bloedarmoede veroorsaak deur 'n ystertekort.<sup>3</sup> Joske *et al.* het maagbiopsies uitgevoer op 100 gevalle van kwaadaardige bloedarmoede en het by die laaste een definitiewe afwykings gevind: maagatrofie by 40, atrofiese maagontsteking—meerendeels ernstig—by 51, en by die oorblywende 9 was daar oppervlakkige maagontsteking met buisatrofie.<sup>3</sup> Hierdie werkers het ook bevind dat daar oor die algemeen by hul 1,000 gevalle 'n sterk wederkerige betrekking was tussen histamien-bevorderde maagafskeiding en die histologie van die maagslymvlies.

Dit blyk dat daar geen verwantskap bestaan tussen maagveranderings en kliniese simptome nie, en dus het maagbiopsie ongelukkig nie gehelp om lig te werp op die soort swak spysvertering wat *nie* uit maagsere spruit nie.<sup>4</sup> Na 'n maaguitsnyding kan 'n mens die ontwikkeling van ontstekings- en omtaardingsveranderings in die maagslymvlies bespeur en dophou, maar die betrekking van hierdie veranderings op na-operatiewe simptome is duister.

'n Voortsetting van die tegniek van maagbiopsie het aanleiding gegee tot die ontwikkeling van metodes om monsters van die slymvlies van die maag en jejunum te bekom. Shiner<sup>5</sup> het die ontwerp van Wood se maaginstrument ietwat gewysig om by hierdie doel aan te pas; sy het 'n balonnetjie aan die distale end geheg (dit word eers opgeblaas as dit die maag bereik, om sodoende makliker by die maaguitgang verby te kom), en die sy-gleufie aan die onderent is nouer. Anders as die maagbuis, moet hierdie instrument deurligtingsgewys beheer word. Die suigkrag wat toegepas word is baie flou; en dit, sowel as die kleiner opening, verseker dat daar slegs minimale gevaar bestaan dat die dunderm deurboor word. Hierdie metode word veral toegepas by die bestudeer van slymveranderings by die spru-sindroom, en skakel dus die noodsaaklikheid van laparotomie uit wanneer hierdie sindroom of Whipple se siekte vermoed word.<sup>7</sup>

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