

EDITORIAL : VAN DIE REDAKSIE

MASS PREVENTION OF CERVICAL CARCINOMA

Important results have been obtained from a large-scale experimental detection programme in British Columbia that is being carried out by the University of British Columbia and the Vancouver General Hospital, and is reported on by Boyes, Fidler and Lock in the *British Medical Journal* of 27 January 1962.¹ All practitioners in the Province have been invited to send, for study at the University cytology department, cervical smears taken by means of a wooden spatula from women over the age of 20. The scheme was started in 1949, and in 12 years (1949 - 60) 193,942 smears had been examined from 146,833 women — one-third of the female population of the Province over 20 years of age. The number of participants grew every year until in 1960 63,575 specimens were received, taken from 58,109 women. The aim is to examine all women over 20 in the next few years. While many of the participants had signs and symptoms of disease, most of them were asymptomatic. It has been made clear to the contributing practitioners (now two-thirds of the practising doctors in the Province) that the object of the cytological studies is 'to find disease where none is suspected; invasive cancer of the cervix being best diagnosed by inspection and biopsy...'

Of the 193,942 smears examined in the 12 years 1949 - 60 (from the 146,833 women participating), 828 cases showed purely *in situ* carcinoma and 87 cases preclinical but invasive carcinoma (47 with discrete, scattered micro-invasive foci, and 40 with frankly invasive, but clinically occult, carcinoma). Almost all these early invasive carcinomas required cone biopsy for diagnosis.

The objects of this detection programme are to study the significance of *in situ* squamous carcinoma of the cervix and its relation to invasive carcinoma; and also to ascertain whether and to what extent the incidence of cervical cancer can be reduced by a programme of cytological detection and removal of *in situ* carcinoma. In fulfilling the last of these two objects the programme is serving as a valuable pilot scheme for the prevention of cervical cancer.

The results of the programme (up to the end of 1959) tend strongly to confirm the widely-held view that *in situ* carcinoma progresses to cancer of the cervix. The investigators studied the age of patients at the different stages of *in situ*, preclinical invasive, and clinically invasive carcinoma. By following up a group of patients known to have previously been cytologically negative, 18 of whom were found subsequently to have developed *in situ* carcinoma, they estimated the mean age at the onset of *in situ* carcinoma as 35.7 years. The mean age of the total cases of *in situ* carcinoma diagnosed (618 in number) was 41.1 years [an analysis of these cases according to (1) the size of the lesion, (2) extent of gland penetration, (3) histological grade, and (4) cytological grade, showed a regular rise in mean age with progression under each

of these 4 headings]. The mean age of the cases of *in situ* carcinoma showing microscopic foci of invasion (38 patients) was 46.5 years, of occult invasive carcinoma (29 patients) 51.0 years, and of clinically invasive carcinoma (511 patients) 52.8 years.

Boyes *et al.*¹ have attempted to estimate the proportion of *in situ* carcinomas that go on to become clinical cancer, by finding the ratio that the incidence of clinical cervical cancer (28.4) bears to that of *in situ* carcinoma (46). This is 61.5%, but they recognize that more data will be required before a statistically sound figure can be derived.

On the assumption that *in situ* carcinoma is a stage in the development of clinically invasive carcinoma, the removal of *in situ* carcinomas will lead to a fall in the incidence of cancer of the cervix. A statistical study by Boyes *et al.* covering the 6 years 1955 - 60 indicates that the British Columbia programme has in fact led to this result. Carefully checked age-specific annual incidence rates for newly diagnosed cases of clinically invasive squamous carcinoma of the cervix have been collected for British Columbia since 1955. One reason for this year being chosen was that it was felt that the *in situ* cases that were detected before 1955 would be too few to have much influence on the incidence of cervical cancer. It was found that the incidence rate of clinically invasive cervical carcinoma in women over 20, per 100,000 female population, declined steadily from 28.4 in 1955 to 19.7 in 1960, a reduction of 30.6%. This reduction in incidence, coincident with a new factor, viz. the cytological examination of about one-third of the women over 20 and the removal of any *in situ* (and preclinical invasive) carcinoma thus discovered, is highly significant. Boyes *et al.* studied the possibility of statistical bias from various sources and considered it to be negligible.¹

If the cases of preclinical invasive carcinoma are included with clinically invasive carcinoma in the incidence rate, the downward trend, though less, is still significant, notwithstanding the increasing number of preclinical invasive cases detected cytologically in the expanding programme. Thus, when the cases of occult invasive carcinoma were included, the incidence rate fell from 28.8 in 1955 to 22.0 in 1960, a reduction of 23.6%; and when the cases of discrete, scattered micro-invasive foci were also included, it fell from 29.8 in 1955 to 23.8 in 1960, a reduction of 20.0%. Since the evolution from the onset of *in situ* carcinoma to clinically invasive carcinoma is of some years' duration, Boyes *et al.* do not expect a rapid fall-off in the incidence rates that include preclinical with clinical invasive carcinoma until a later stage in the detection programme.

We have discussed the report of these Canadian workers at some length, since we believe their results to be of great significance in the fight against cancer of the uterine cervix. By a concerted, Province-wide drive, they have

managed to examine one-third of the women over the age of 20, and the incidence of cervical cancer has dropped by one-third since their cytological screening has become effective in discovering *in situ* and early invasive cervical carcinoma.

Surely there is a lesson here for South Africa? This pilot scheme in British Columbia was begun in 1949—14 years ago. We, in this country, have been extremely tardy in applying cytological screening methods to the problem of cervical cancer. It was only last year, 1961, that a pilot scheme was begun in the Brakpan Municipality,² with support from the National Cancer Association. For some years, it is true, vaginal smears have been examined as a routine at the gynaecological outpatient departments in our large teaching hospitals,³ and the results so far, in detecting *in situ* and early invasive cervical carcinoma, have been quite impressive. Similar work is being undertaken in some municipal clinics as well. However, these services are available only to a comparatively small section of our total population.

A few years ago a course to train cytological technicians was begun at the South African Institute for Medical Research, and a number of technicians were adequately trained. Some of these have not carried on with the work, but the others are working in the abovementioned departments. However, this course has been abandoned, at least temporarily, and at present there is nowhere for cytological technicians to train; equally there are few pathologists with the training and experience to undertake cytological smear screening on a large scale.

On the other hand, there is a growing demand from the public for the institution of adequate facilities for the screening of vaginal smears. The National Cancer Association, as part of its lay education programme, has been showing the film 'Time and Two Women' to audiences of women throughout the country. This American film, which has also been given an Afrikaans sound track and has been shown to many Afrikaans-speaking audiences, highlights the importance of routine vaginal cytology.

Wherever it has been shown it has caused great interest among the public and they have been quick to ask where they can find facilities for vaginal cytology. They are told that there are very few in the country. They ask their

own doctors to take these smears during routine examinations, as the film has told them they should do, but there is nowhere that the doctors can send the smears for examination—a highly specialized task, let it be said.

Now that so much propaganda has been made throughout the country concerning the importance of vaginal cytology, and now that the Canadian programme has shown that large-scale detection of *in situ* and early invasive carcinoma can lead to a definite fall in the incidence of cervical carcinoma, we consider it is time that all the responsible authorities—the State Health Department, the Provincial Administrations, the medical schools, the large municipalities, the National Cancer Association, the SAIMR—get together and decide on a definite and definitive programme of vaginal cytology throughout the country. The demand for it is there; the reason for it is there; let us cut the red tape or whatever is holding back a most important public health service, and go ahead with a project that is long overdue.

A recent leading article in the *British Medical Journal*⁴ reached much the same conclusions as we do. It pointed out that there have been several pilot studies of exfoliative cytology in various British towns, and continued: 'Now that these experiments are over and the value of the screening method is accepted as a means of detecting carcinoma-*in-situ* and occasionally invasive cancer, the next phase, the exploitation of the method in the United Kingdom, needs to be considered'.

We submit that we do not need further pilot studies in South Africa. Enough is known about the value of vaginal exfoliative cytology to make it possible for us to consider, as the authorities in Britain appear to be doing, the introduction of a full, nation-wide programme of vaginal cytology.

Boyes *et al.*¹ expressed the view that a programme of cytological screening of the whole female population is capable of virtually eliminating carcinoma of the cervix. We in South Africa have much leeway to make up in this field. Too many wasted years have gone by already—now is the time to act.

1. Boyes, D. A., Fidler, H. K. and Lock, D. R. (1962): *Brit. Med. J.*, **1**, 203.

2. Robertson, L. S. (1961): *S.Afr. Med. J.*, **35**, 861.

3. Louw, J. T. (1960): *Ibid.*, **34**, 1096.

4. Leading Article (1962): *Brit. Med. J.*, **1**, 1817.

GROOTSKAALSE, VAGINALE, SITOLOGIESE ONDERSOEKE

Sekere vertakkings van die voorbehoedende medisyne het gedurende die afgelope aantal jare met rasse skrede vooruitgegaan. Op die gebied van die openbare gesondheid het massa-immunisasiestogte 'n al groter omvang begin aanneem, sodat ons, om maar een voorbeeld te noem, inderdaad kan sê dat die voorkoms van poliomiëlitis daadwerklik verminder het. Ook op die gebied van die voorkoming van kanker het massa-veldtogte al groter voordele afgewerp. 'n Belangrike rigting van vrugbare werk op hierdie gebied is byvoorbeeld die pogings tot voorkoming van karsinoom van die serviks deur sitologiese ondersoeke en daaropvolgende behandeling op groot skaal.

Daar het onlangs 'n opsigbare verslag in die mediese pers verskyn oor die resultate wat 'n aantal Kanadese werkers op hierdie gebied behaal het. Boyes en sy mede-werkers¹ doen naamlik verslag van 'n massa-ondersoek

waarin hulle daarin geslaag het om ongeveer een derde van al die vrouens oor die ouderdom van twintig in 'n uitgestrekte gebied sitologies te ondersoek oor 'n tydperk van twaalf jaar. Uit 146,833 vrouens wat ondersoek is, is nagenoeg 1,000 gevalle van karsinoom—828 *in situ* en 87 preklinies, maar infiltrerend—ontdek en behandel.

Die treffende feit wat hierdie ondersoekers rapporteer—dat die voorkoms van karsinoom van die serviks in die betrokke gebied reeds al aansienlik gedaal het—is van die grootste belang, ook vir ons in hierdie land.

Die ondersoek waarna ons verwys, is alreeds 14 jaar gelede begin. In hierdie land is die eerste massa-ondersoek, in die gebied van die Brakpanse Munisipaliteit, maar ongeveer 'n jaar gelede onderneem. Dit is wel waar dat sitologiese ondersoeke—met indrukwekkende resultate—reeds al 'n aantal jare lank gedoen word aan sommige van

ons mediese skole, in sommige van ons munisipale klinieke, en selfs deur 'n aantal private patoloë. Ten spyte hiervan bly die aantal vrouens vir wie dié dienste beskikbaar is, egter maar baie gering.

Om hierdie soort ondersoeke op groot skaal en op 'n bevredigende manier te doen, is dit noodsaaklik dat spesiale tegniese werkers daarvoor opgelei word. Opleiding van tegnisi vir hierdie doel is 'n aantal jare gelede begin aan die Suid-Afrikaanse Instituut vir Mediese Navorsing in Johannesburg. Ongelukkig moes hierdie kursus, om verskeie redes, tydelik gestaak word, sodat daar nou geen opleidingsentrum vir hierdie soort werkers in die land is nie. Ook is daar nie baie patoloë wat die opleiding en ondervinding het om sitologiese ondersoeke op massa-skaal te onderneem nie.

Dit is die een kant van die saak. Die ander kant van die saak is dat daar 'n groeiende behoefte is by die algemene publiek aan fasiliteite om vaginale smere op groot skaal sitologies te sif as deel van voorbehoedende optrede op hierdie gebied.

Die Nasionale Kankervereniging doen uitstekende werk in sy opvoedingsprogram vir leke (wat die vertoning

van rolprente vir vrouens insluit). Maar hierdie saak kan nie net by die verskaffing van informasie gelaat word nie. Daar moet voorsien word in die behoefte wat deur die voorligtingswerk geskep word.

Op grond van die feite wat ons nou tot ons beskikking het, soos byvoorbeeld die gegewens van die Kanadese werkers waarna ons hierbo verwys het, weet ons dat die vroeë ontdekking van karsinoom van die serviks deur middel van sitologiese ondersoeke op groot skaal wel kan lei tot die daling van die voorkoms van dié toestand en van sterftes as gevolg daarvan. Min of meer dieselfde gevolgtrekkings word ook gemaak in 'n onlangse Inleidingsartikel in die *British Medical Journal*,² waarin verwys word na verskeie proefondersoeke op hierdie gebied in 'n hele aantal Britse stede.

Hierdie feite en gegewens noop ons dus om te besluit dat verdere proefondersoeke nie meer nodig is nie. Wat *nou* nodig is, is dat daar by alle belanghebbende inrigtings en organisasies aangedring word daarop om op hierdie gebied meer radikale en progressiewe stappe te doen.

1. Boyes, D. A., Fidler, H. K. en Lock, D. R. (1962): *Brit. Med. J.*, **1**, 203.
2. Leading Article (1962): *Brit. Med. J.*, **1**, 1817.