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VAN DIE REDAKSIE : EDITORIAL

GINEKOLOGIESE EN OBSTETRIESE BYDRAES

Van 2–5 Maart 1959 het die Agste Interim Kongres van die Suid-Afrikaanse Vereniging van Verloskundiges en Ginekoloë in Bloemfontein plaasgevind. Weer eens het die hoë gehalte van die referate bewys gelewer van die uitstekende navorsingswerk, klinies sowel as akademies, wat in hierdie belangrike vertakking van medisyne in ons land verrig word.

Die Groep verloskundiges en ginekoloë vorm vandag seker een van die mees aktiewe Groepe in die Mediese Vereniging asook in die Kollege van Interniste, Chirurge en Ginekoloë van Suid-Afrika. Een van die doelstellinge van die Groep is om die gehalte van verloskunde en ginekologie wat gepraktiseer word, die opleiding van studente en vroedvroue, en die kraamfasiliteite wat bestaan, te probeer verbeter. Daar word teenswoordig in die groter sentra ondersoek ingestel na die oorsake van die moederlike sterftesyfer, aangesien hierdie syfer 'n goeie maatstaf is van die gehalte van verloskunde wat gepraktiseer word. Hierdie werk word egter bemoeilik deurdat geneeshere nie altyd op die doodsertifikaat invul dat daar 'n swangerskap teenwoordig was, of 'n onlangse bevalling plaasgevind het nie. 'n Beroep word dus op alle praktisyns gedoen om, waar 'n sterfgeval enigsins verband mag hê met swangerskap of geboorte, dit onder die bydraende oorsake op die doodsertifikaat te stipuleer.

Dat die Vereniging van Verloskundiges en Ginekoloë aktief is, word ook bewys deur die feit dat daar al agt interim kongresse gehou is, en dat die bywoning by al die kongresse goed was. Die kongres in Bloemfontein is bygewoon deur dertig verloskundiges uit 'n totale ledetal van ietwat meer as 'n honderd. Aangesien dit die eerste byeenkoms in Bloemfontein was, is dit vanselfsprekend dat daar 'n mate van huiwering bestaan het of die poging suksesvol sou wees. Hierdie onsekerheid is gou uitgewis deur die vriendelike ontvangs van die besoekers en die nadere kontak wat die kongresgangers met hulle gashere en medekongresgangers in 'n kleiner stad kon maak. Die waarde van so 'n kongres lê nie alleenlik in die bywoning van die voordragte nie, maar ook in die wisseling van gedagtes wat plaasvind.

Soos blyk uit die bydraes wat ons in hierdie uitgawe plaas, is die gehalte van die gelewerde bydraes op 'n hoë peil. Ongelukkig is 'n paar van die goeie referate nie vir publikasie op hierdie stadium beskikbaar nie aangesien hulle vir proefskrifte gebruik sal word. Hieronder was daar 'n bydrae deur dr. N. Walker van die Mediese Skool, van Durban oor die onderwerp 'Fetale nood—'n indikasie of 'n verskoning vir keisersnee'. In hierdie uiters stimulerende referaat word getoon dat indien die gewone tekens van fetale nood geïgnoreer word, die resultate wat betref fetale verliese geensins hoër is as wanneer dadelik handelend opgetree word nie; met ander woorde, baie keisersneë word waarskynlik onnodiglik gedoen juis omrede van hierdie indikasies. Hierdie belangrike werk is nog aan die gang en die finale gevolgtrekkinge mag ons sienswyse insake die belangrikheid van die tekens van fetale nood aansienlik verander.

Dr. S. Shippel van die Mediese Skool, Universiteit van die Witwatersrand, en een van ons uitstaande ginekologiese patoloë, het met sy oorspronklike navorsingswerk oor die tekasel van die ovarium wêreldberoemdheid verwerf. In die afgelope tyd het hy hom toegespits op die studie van die plasenta. Dit is ongelukkig dat sy bydrae oor die patologie van die ouderdomsverskynsels in die plasenta nie vir druk in hierdie uitgawe gereed is nie. Diegene wat in Bloemfontein na hom geluister het, sal dr. Shippel se geïnspireerde lesings nie gou vergeet nie. 'n Wetenskaplike wat so besiel is met sy werk moet altyd indrukwekkend wees, veral as hy ook onoortreflik as leermeester is.

Die kollegas van Bloemfontein het die kongres met graagte gereël. Met die oog op die beplanning van 'n nagraadse mediese skool help so 'n byeenkoms baie om die regte geestesstemming en atmosfeer onder kollegas sowel as onder die betrokke owerhede te skep. Met die snelle ontwikkeling wat in die Oranje-Vrystaat plaasvind en die geweldige toekoms wat die ontginning van goud en uraan beloof, is die dae waarin hierdie Provinsie as die aspoester van die Unie beskou is, haas aan die verbygaan. Die Nasionale Hospitaal in Bloemfontein beskik tans oor 670 beddens en met die aanbou van die nuwe hospitaal vir Naturelle sal dit vermeerder tot oor die 1,000 beddens. Die kern vir die skepping van 'n nagraadse skool bestaan dus en behoort ten volste gebruik en ontwikkel te word.

SECOND THOUGHTS ON SEX REVERSAL

The discovery that men and women can be distinguished by the pattern of their cell nuclei led to the belief that Turner's syndrome (gonadal-dysgenesis-with-female-body-form) occurred in a genetic male, while Klinefelter's syndrome, a form of hypogonadism with male body form, occurred in a genetic female. Thus the patients concerned appeared to be of a physical sex opposite to that of their gene structure, a state of affairs which became known as 'sex reversal'. This conception, however, has had a very short life, and has recently been destroyed by some interesting work on chromosomes which is summarized in three papers in the same issue of the *Lancet*.[1-3]

To get to this point we must go back a little in the study of chromosomes. In drosophila the study of chromosomes proved comparatively easy, since not only can the chromosome responsible for a particular feature be identified, but

even the exact portion of that chromosome where the relevant gene lies. In man, on the other hand, most of the assumptions concerning the physical basis of inheritance have been obtained by analogy with other species. Recent improvements in histological technique have enabled more direct observations of human chromosomes to be made during mitosis in tissue culture. Improvements in staining, the 'squash' method of making preparations, hypotonic solutions to 'expand' the cells, and the use of colchicine have all played a part. Colchicine has the property of halting the mitotic process halfway and also of inhibiting spindle formation, so that the individual chromosomes remain separated.

One of the first results of these methods was the demonstration that man has 46 chromosomes, and not 48, as had been believed for many years. Now, with the use of short-term cultures of sternal marrow, the authors writing in the *Lancet*[1-3] have demonstrated deviations from this chromosome number. These deviations have great clinical significance, e.g. cases of chromatin-positive (i.e. female-nuclear-pattern) Klinefelter's syndrome are found to have 47 chromosomes, while cases of chromatin-negative Turner's syndrome have only 45 chromosomes. The fact that two different teams of workers have made the same observations makes it probable that these numbers apply to all cases of the two conditions.

In each disease it appears that the abnormality lies in the sex chromosomes, although this is not completely certain, because the X and Y chromosomes cannot be identified from other similarly shaped chromosomes with absolute surety. It is a reasonable assumption, nevertheless, that the Klinefelter syndrome is characterized by the sex system XXY, and Turner's syndrome by XO. Some interesting conclusions can be drawn from this assumption. The sex chromatin mass which we have used for our clinical 'genetic sexing' certainly appears to represent the XX chromosome pair (i.e. the normal female apparatus). It tells us no more than that, however, and what we believed to be XX chromosomes in Klinefelter's syndrome were really XXY, while the assumed XY (chromatin-negative pattern) in Turner's syndrome was really XO. Consequently, the term 'sex reversal' becomes plainly incorrect, since the original genetic sex is indeterminate. Therefore, at the present time, we cannot say whether the XXY pattern indicates a *male* who has gained an X or a *female* who has gained a Y; or whether the XO (Turner's) represents a male who has lost his Y or a female who has lost an X. It makes us a little happier now in talking to patients with either of these conditions. If they should hear about their 'nuclear pattern', at least it can lead to no direct assumption of genetic sex'—we can with lighter heart inform them that their genetic sex does not oppose their apparent sex. Finally, these new discoveries appear to indicate the importance of the Y chromosome in man. In drosophila the Y has no importance with regard to sexual differentiation, so that an XXY is a normal female and an XO a normal male. In man, the Y chromosome, however, must surely have some active masculinizing function.

The third condition which has been investigated by modern methods is mongolism. In this disease, too, 47 chromosomes have been found, but the extra one is not a sex chromosome. Penrose and his co-workers[1] report a remarkable case of Klinefelter's syndrome and mongolism combined, in which there are two extra chromosomes, a total of 48. What will be the next condition to show chromosome abnormalities? We can be sure of advances in this field. What, for instance, of another variety of apparent 'sex reversal'—the normal-looking females with intra-abdominal oestrogen-producing testes, and chromatin-negative nuclear pattern? What of the true hermaphrodite, with mixed male and female sexual apparatus, whose chromatin pattern has been found to be either positive or negative? One thing we have surely learnt—the danger of introducing new nomenclature on an insecure basis.

1. Ford, C. E., Jones, K. W., Miller, O. J., Mittwoch, U., Penrose, L. S., Ridler, M. and Shapiro, A. (1959): Lancet, 1, 709.
2. Jacobs, P., Baikie, A. G., Court Brown, W. M. and Strong, J. A. (1959): *Ibid.*, 1, 710.
3. Ford, C. E., Jones, K. W., Polani, P. E., de Almeida, J. C. C. and Briggs, J. H. (1959): *Ibid.*, 1, 711.