

ANTISEPTICS

The problem of local antiseptics is a complex one. A great variety of methods have been used to evaluate antiseptics, but there is still much confusion regarding the best agent to use under various conditions. The traditional phenol-coefficient test, which is thoroughly standardized, has nevertheless proved to be of little practical value because the results obtained bear no relation to the value of the agent on the skin or a wound. In the past too much reliance has been placed on fashion, convention, or convenience, which has handicapped progress. Mercury preparations and other agents have had their day. At present there is a vogue of hexachlorophene preparations and detergents which also require careful assessment.

The number of bacteria on the skin can be reduced, but complete sterilization is impossible, and the surgeon is compelled to operate with hands that cannot be completely disinfected. The skin is not a smooth surface and bacteria are found in large numbers on the surface, in flakes of skin and in hair follicles; and in the skin glands there are transient and resident organisms, which may be virulent or saprophytic in nature. The transient organisms can nearly all be removed by thorough and prolonged scrubbing with brush, soap, and water. The resident population is not so readily removed. In most persons they consist largely of staphylococci of low pathogenicity, but some virulent flora are almost always present, especially when there is frequent and prolonged exposure of the skin to large numbers of pathogenic bacteria. There is a reservoir of deep-lying bacteria as well as superficial flora. There is also an uneven distribution of organisms, but no constant pattern has been determined.

In the disinfection of hands, dirt, grease, and natural fats need to be removed by thorough scrubbing to permit antiseptics to make contact with the cutaneous bacteria. It takes about seven minutes of real scrubbing with brush, soap, and warm water to eradicate all fats from the skin of the hands and arms. No way has been found to prevent an increase of the flora under rubber gloves. Regeneration of the cutaneous bacterial flora, after scrubbing and the use of antiseptics, does occur, and more rapidly under rubber gloves and impervious dressings.

Soap is only a feeble antiseptic, but is of value especially for its detergent or cleaning action combined with washing and mechanical friction. Of the antiseptics that are in use, hexachlorophene is one of the few that does not lose its antibacterial action in the presence of soap. Alkaline soap keeps hexachlorophene in solution, and such combinations have been widely used for preparation of the preparation is 'phiso-hex'. Hexachlorophene does not, however, disinfect the skin quickly,¹⁻³ so that preparations never disinfect the skin quickly,¹⁻³ so that preparations containing this antiseptic need to be used exclusively and frequently several times a day for four to five days. In this way a reasonably satisfactory 'degerming' of the skin can be anticipated and a film of the agent may be left on the hands and arms. A single brief application would appear to be no more effective than a similar scrub with ordinary soap. Ethyl alcohol, 70 per cent. by weight, is the most effective hand disinfectant available; it must be borne in mind that this preparation does not remain constant in composition in open basins because the alcohol evaporates more rapidly than the water fraction.

The problem of disinfection of the patient's skin differs in several important respects from that of hand disinfection. Space does not permit of any detailed considerations of this subject. With regard to hexachlorophene the same rules apply as indicated above. Patients can be instructed in suitable cases to carry out the regime of repeated washing with the antiseptic at home before an operation. The old-fashioned custom of applying disinfectants for a day or two before surgery, with the part wrapped in sterile dressings or towels, is unsatisfactory.

Further problems exist in connection with the choice of antiseptics for wounds. Here they have very limited usefulness. The chances are that they will be largely inactivated by serum, blood, pus and necrotic tissue, and by dilution, and there are other objections to their use. Finally there are the problems of the topical application of antiseptics in special regions such as the mouth, the urinary tract, and the vagina, and the use of drugs in dermatology.

1. Black, I. H. and Coolidge, M. H. (1950): *J. Invest. Derm.*, **15**, 257.
2. Price, P. B. (1951): *Ann. Surg.*, **134**, 476.
3. Seastone, C. V. (1947): *Surg. Gynec. Obstet.*, **84**, 355.

BYKOMSTIGE OORWEGINGS BY SPONTANE MISKRAAM

Behalwe die oorwegings in hierdie verband wat ons voorheen al bespreek het,^{1,2} is daar nog twee bykomstige faktore waarna ons kortliks wil verwys, naamlik die rol van die saadselle self, en meganiese faktore.

Dit mag wel gebeur dat die ginekoloog te staan kom voor 'n geval van miskraam wat herhaaldelik voorkom (selfs gewoontemiskraam wat per definisie beteken drie opeenvolgende miskrame) in 'n pasiënt wat klinies normaal is volgens alle beskikbare standaarde, en ten spyte van aanvullende hormoon- en dieetbehandeling. Daar bestaan tot nog toe geen finale kennis oor die verband tussen

die kwaliteit van die saad (saadsele-morfologie) en die miskraam nie. Deskundiges stem grotendeels saam wat betref defekte in die saadsele-morfologie, en die mening skyn te wees dat baie min sulke saadselle normaal in die servikale slym gevind word—selfs waar 'n hoër presentasie van sulke abnormale selle aanwesig is in die saad-uitstorting. Hierdie vorms wys selde goeie beweeglikheid; hulle vermoë om te beweeg is dus besonder beperk sowel wat betref deurdringing van die servikale slym as bereiking van die omgewing van die ovum. Bowendien, selfs saadselle wat normaal voorkom, kan aan genetiese defekte

onderhewig wees en dus aanleiding gee tot miskraam. Daar is op die oomblik geen manier waarop hierdie moontlike defekte vasgestel kan word nie—nie chemies nie en ook nie mikroskopies nie. Die gevolg is dus dat ons slegs maar op 'n verantwoordelike manier oor die saak kan spekulere in afwagting van verdere werk.

Dat daar meganiese faktore is wat in hierdie toestand van belang is, word vandag algemeen aanvaar. Enigiets wat betrekking het op die baarmoederholte, bv. fibroïdes in die baarmoeder of aangebore anomalieë van die baarmoeder, mag wel onvrugbaarheid of miskraam veroorsaak, en moet dus herstel word deur middel van die nodige chirurgiese optrede.

Shirodkar³ het gedurende die laaste tyd die aandag gevestig op 'n toestand wat bekend is as 'n „verswakte servikale mond“. Hierdie toestand word aanvaar as 'n oorsaak van laat miskraam en die chirurgiese metode om dit te herstel is reeds beskryf.

Die serviks bestaan basies uit veselagtige bindweefsel. Van die 14e week van swangerskap af begin die onderste deel van die uterus om te vergroot sodat die produkte van swangerskap, wat nou vinnig groei, bevat kan word. Die vergroting hou skielik op by die aansluiting van die liggaam van die uterus en die serviks. Die serviks word toegehou deur die aard van sy veselagtige struktuur. Wanneer hierdie integriteit belemmer word of verlore gaan, bv. deur vorige geboortes of skeuring of aangebore abnormaliteit, mag die serviks nie in staat wees om die produkte van swangerskap, wat nou al meer en al swaarder word, te behou nie. 'n Min of meer tipiese sindroom mag

dus teen die 14e week begin deurdat die vliese skeur met daaropvolgende vinnige geboorte—met of sonder sametrekings van die uterus.

By die gewone soort miskraam is die volgorde van wat gebeur anders; ook vind dit altyd voor die 14e week van swangerskap plaas. Die „verswakte servikale mond“-sindrome word ook gewoonlik voorafgegaan deur 'n geskiedenis van moeilike of voortydse geboorte of met te vroeë afdrukpogings by 'n vorige geleentheid.

Die diagnose word gemaak op die geskiedenis en 'n sterk vermoede dat dit sal gebeur in die volgende swangerskap. Ook moet die serviks gereeld elke week ondersoek word om te kyk of die vliese uitstaan na die 14e week. As die vliese te eniger tyd gesien kan word, is die geval of een van werklike miskraam wat aan die gang is of van 'n verswakte serviks, en die nodige maatreëls moet getref word. Sommige skrywers meen dat sodanige verswakking gediagnoseer kan word voor verdere swangerskap plaasvind deur die gebruik van 'n groot verwyder of deur spesiale röntgenstudies, en dat dit chirurgies herstel moet word op hierdie stadium. Die meeste ginekoloë verkies egter om te wag totdat die pasiënt swanger is voordat die finale diagnose gemaak en op behandeling besluit word. 'n Groot mate van sukses is met die laaste metode bereik, en ons moet onthou dat spontane miskraam, wat die gevolg is van aangebore, hormonale of ander oorsake, op hierdie stadium uitgesluit is.

1. Van die Redaksie (1961): *S. Afr. T. Geneesk.*, **35**, 125.

2. *Idem* (1961): *Ibid.*, **35**.

3. Shirodkar, V. N. (1955): *Antiseptic*, **52**, 299.