

*Comparison of carbolic acid with other coal-tar derivatives.*—Various other coal-tar products have been recommended as substitutes for carbolic acid.

*Cresol* is obtained from crude carbolic acid. Gruber, Behring, Buttersack and others concede a higher disinfecting value to cresol than to carbolic acid, and Grigorjeff's experiments prove that the cresol is four times less toxic than the carbolic acid.

*Lysol* consists of neutral soap, water and cresols. It is undoubtedly a better disinfectant than carbolic acid and is also cheaper. Gruber found that a 2 per cent. solution of lysol destroyed the *Staphylococcus* of suppuration as readily as a 3 per cent. solution of carbolic acid.

In Martin's clinic in Berlin, the statistical showing was more favorable after the use of lysol than after that of carbolic acid.

Gerlack, in speaking of its advantages in surgical practice, says that lysol is more efficient than carbolic acid; that the disinfection of the hands is assured by using a 1 per cent. solution without the previous use of soap; that a one-fourth per cent. renders instruments sterile and does not attack the instruments; and that it is eight times less poisonous than carbolic acid, and much less so than corrosive sublimate. The one disadvantage of lysol, namely, rendering the hands and instruments slippery, can be overcome by subsequent washing in sterilized water.

*Creolin*, an emulsion of the cresols of crude carbolic acid in a solution of hard soap. Creolin has been used as a surgical antiseptic, but other cresol preparations are far superior to it. Its superiority to carbolic acid is doubtful and its toxicity is not as mild as has been claimed for it. When placed in solutions of water the creolin becomes precipitated and an opaque white solution results. This is very inconvenient in surgical work, as it obscures the field of operation.

*Solveol* is a preparation of cresol held in aqueous solution by means of cresotinate of soda. It contains 27 per cent. of cresol and is used principally as a surgical antiseptic. It forms clear and perfectly neutral solutions in water; solutions of the same strength are twenty times less poisonous and much less caustic than those of carbolic acid; its solutions do not roughen the hands as corrosive sublimate does, nor benumb them as carbolic acid does, nor render them slippery as lysol does, nor obscure the field of operation as the precipitate of creolin does; its odor is less persistent than that of carbolic acid; diluted with calcareous waters precipitates are not formed as with corrosive sublimate and lysol.

It speaks most favorably for solveol that Hammer found .5 per cent. of solveol to act more energetically than a 2.5 per cent. solution of creolin, lysol and carbolic acid.