

Medical Matters.

ON THE CAUSES, VARIATIONS, AND SIGNIFICANCE OF THE COLOUR OF THE FÆCES.



In view of the growing appreciation of the importance and value of the systematic examination of the fæces, Lewis Connor, M.D., in *Medical News*, considers the sources of the fæcal colour, together with its variations and its clinical significance.

The elements which go to make up the colour are conveniently grouped under the following heads:—(1) Digestive secretions; (2) Food residue; (3) Discharges from the intestinal mucous membrane; (4) Accidental ingredients, as drugs, &c.

1. *Digestive secretions*.—When the intestines contain no food whatever, the fæces, which then consist only of the digestive secretions, mucus, desquamated epithelium, and bacteria, are considerable in quantity and of dark pitch-like appearance. Of the various digestive juices the bile is the only one which takes any considerable part in furnishing colour to the stools. The hydro-bilirubin constitutes the normal yellowish-brown pigment of the fæces; a certain amount of this undergoes still further reduction to a colourless body called by Von Nencki leuco-urobilin. It is to the presence of this colourless chromogenic body and its gradual oxidation back to hydro-bilirubin that Quinke ascribes the gradual darkening in colour which the surface of fæces undergoes upon exposure to the air. The pancreatic juice also supplies some colouring matter.

2. *Food residue*.—With the usual mixed diet, the food residue plays only a subordinate part in the make-up of the fæcal colour; but where the food has a distinctive colour, this may considerably modify the appearance of the fæces. In general, a vegetable diet produces much lighter-coloured stools than does a diet chiefly of meat. A diet of milk produces yellow or yellowish-white stools, while those of infants fed upon breast milk have the orange-yellow colour of the yolk of egg; the colour being due to the presence of unchanged bilirubin, which, owing to the absence of putrefactive processes, is not changed in the intestine.

3. *Discharges from the intestinal wall*.—

Among those which may modify the colour of the dejections are mucus, pus, serum, and blood. Mucus in large quantities, and when thoroughly mixed with the fæces, have a glistening, greyish appearance. Pus will give a distinct yellowish or yellowish-grey tone to fluid stools; but for this to occur, the pus must be in large amount, and must come from the lower part of the large intestine. Serum, aside from giving to fæces a watery consistence, will also impart its own straw colour when the usual fæcal pigment is lacking. Blood can give a great variety of tints, depending upon its amount and upon the degree of change which it has undergone; from the rectum or sigmoid flexure, promptly discharged, it retains its normal colour; whereas blood from the small intestine presents an appearance suggestive of coffee grounds or of tar. Certain articles of diet, *e.g.*, cocoa, nuckleberries, &c., may produce in the stools an appearance which may easily be mistaken for disorganised blood.

4. *Accidental ingredients*.—Among the most interesting of the variations in the colour of the stools are those produced by the use of certain drugs. Bismuth preparations give a blackish or dark-green colour by the reduction of the ordinary salts to bismuth oxydyl; calomel causes greenish stools only infrequently, and then apparently by checking the putrefactive processes, and by so preventing the reduction of all bilirubin. Iron usually does not affect the colour until they have been exposed to the air, when they become blackish-grey. Rhubarb, senna, and santonin sometimes give a yellow colour; methylene blue causes no discoloration till within a few minutes after the stools are passed, when they take on a bluish-green tint. In certain of the green diarrhoeas of children Dr. Lesage has found a bacillus which in cultures develops a green pigment. Clay-coloured stools are associated with obstructive jaundice, and their lack of colour has been ascribed to the absence of the bile colouring matter. Dr. Bunge, however, thinks that it is due rather to the presence of an excessive quantity of fat. Colourless stools without jaundice are seen in leucæmia, in cancer of the stomach and intestines, in intestinal catarrh in children, and especially in cases of advanced phthisis. Green stools, except in cases in which the colour is due to bacterial action or to the food, are always caused by the presence of biliverdin.

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