

ROLE OF CHROMIUM IN HUMAN METABOLISM, WITH SPECIAL REFERENCE TO TYPE 2 DIABETES

SUBHANKAR CHOWDHURY* AND BASUDEV BHATTACHARYA**

Chromium exists in 3 main forms : metallic state, trivalent and hexavalent forms. While hexavalent chromium is recognised as an industrial toxin linked to lung cancer, trivalent chromium is acknowledged as an essential nutrient. The latter is known to improve insulin sensitivity and, therefore, to influence carbohydrate, fat and protein metabolism. Hence, it has been tried in type 2 diabetes, where insulin resistance plays a crucial role in pathogenesis. Supplementation with trivalent chromium often causes a modest improvement of glycaemic control. The expected improvement in lipid profile is not seen consistently. Despite the lack of adverse effects in *in vivo* studies of trivalent chromium supplementation, routine use in diabetes is not indicated. The patients suffering from type 2 diabetes who are likely to benefit are those who are elderly, on severely restricted diet and with gross hyperglycaemia and profuse polyuria.