presence of precipitin bands (1 to 3) with rabbit antimicrofilarial sera indicating the presence of soluble antigens in all the cases and one precipitin band with microfilarial antigen indicating the presence of antibody in two cases. Use of counter current immunoelectrophoresis in detection of soluble antigens is being investigated further for application as additional confirmatory test in the diagnosis of filariasis.

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COMPARISON OF THE PROTEIN COMPONENTS OF HEN'S EGG YOLK LOW DENSITY FRACTION OF GRANULES (LDFG) AND LOW DENSITY FRACTION (LDF)

LDFG AND LDF (also called very low density lipoprotein; VLDL) of hen's egg yolk have long been considered to be similar because of their similarity in lipid content and lipid composition[1,2]. Recently, the protein components of VLDL were isolated and characterised in this laboratory[3]. Here we report preliminary data to show that the protein components of LDFG and VLDL are similar.

LDFG of white plymouth rock egg was carefully separated from granule solution after ultracentrifugation[4]. It was dissolved in 0·05 M Tris-HCl buffer pH 8·2 and dialysed against the same buffer with three to four changes. The solution was centriguged to remove precipitated lipovitellin-phosvitin complex and was chromatographed on DEAE-cellulose column as described by Raju and Mahadevan[3]. LDFG-apoprotein was obtained from LDFG and fractionated using Sephadex G-200 column[5]. SDS-polyacrylamide gel electrophoresis was performed by the method of Weber and Osborn[6].

Sephadex G-200 elution pattern of LDFG-apoprotein consists of three fractions namely, zone A, zone B and zone C. These three fractions resemble those of VLDL-approprotein shown in Fig. 1. Variation in the distribution of zone C-protein fraction in LDFG and VLDL is evident from Fig. 1. This differences in ratio of zone C to zone A protein fractions could be due to a difference in the distribution of zone C-protein fraction or due to the difference in the two egg strains (VLDL is obtained from white leg horn egg). Figure 2 shows similarities in SDS-gel pattern of the apoproteins of LDFG and VLDL. Both these experiments suggests that the protein components of LDFG and VLDL are similar.

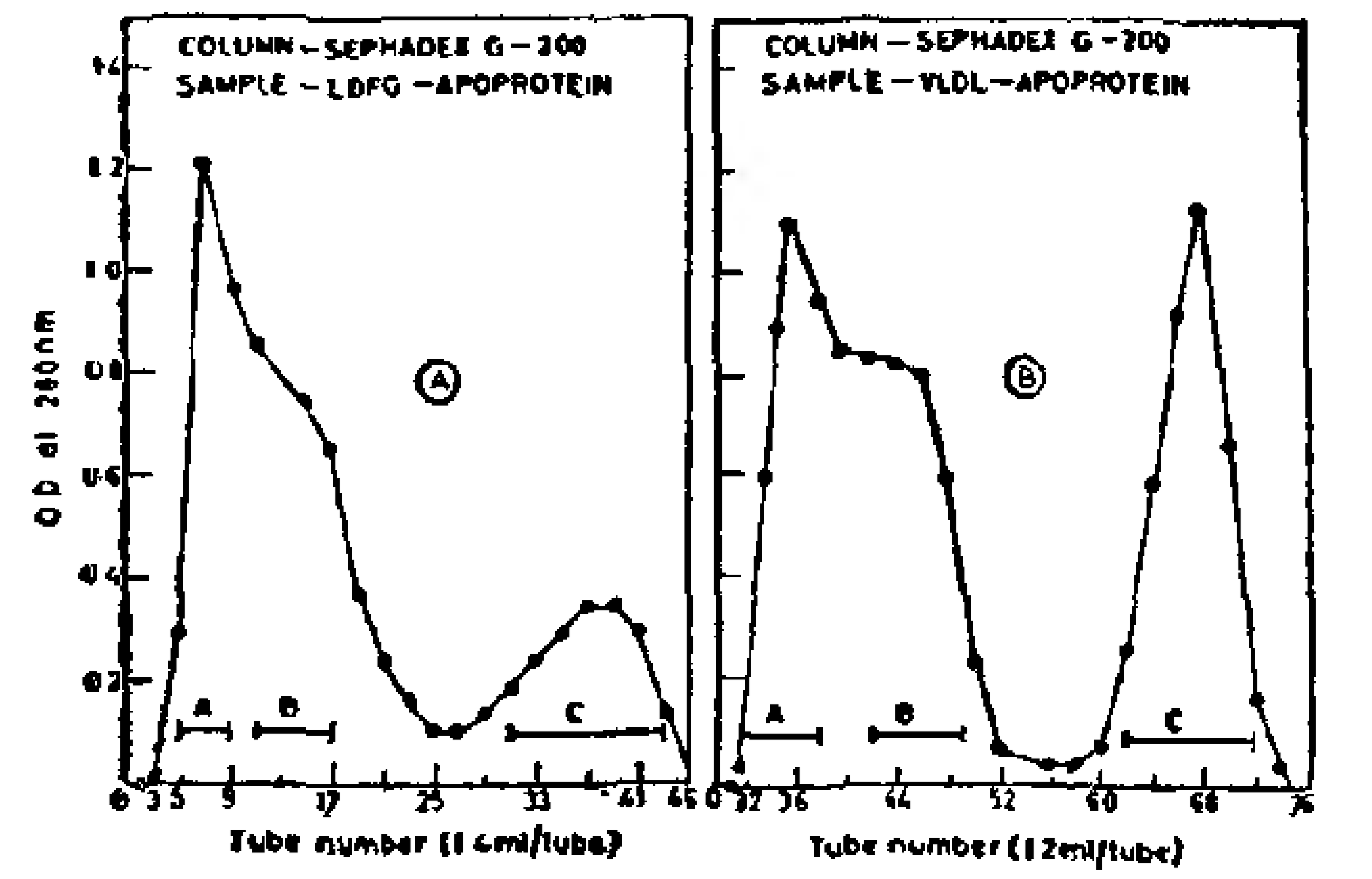

FIG. 1. A: Gel filtration of LDFG-apoprotein on Sephadex G-200. About 60 mg protein dissolved in 2·8 ml of 0·5% SDS was loaded on Sephadex G-200 column (1·8 cm × 73 cm) and the column was eluted with 0·5% SDS. 1·4 ml fractions were collected at a flow rate of 15 ml/hour. B: Gel filtration of VLDL-apoprotein on Sephadex G-200[5]. About 50 mg protein loaded in 1 ml of 0·5% SDS on sephadex G-200 column (1·3 × 100 cm) and the column was eluted with 0·5% SDS. 1·2 ml fractions were collected at a flow rate of 6 ml/hr.

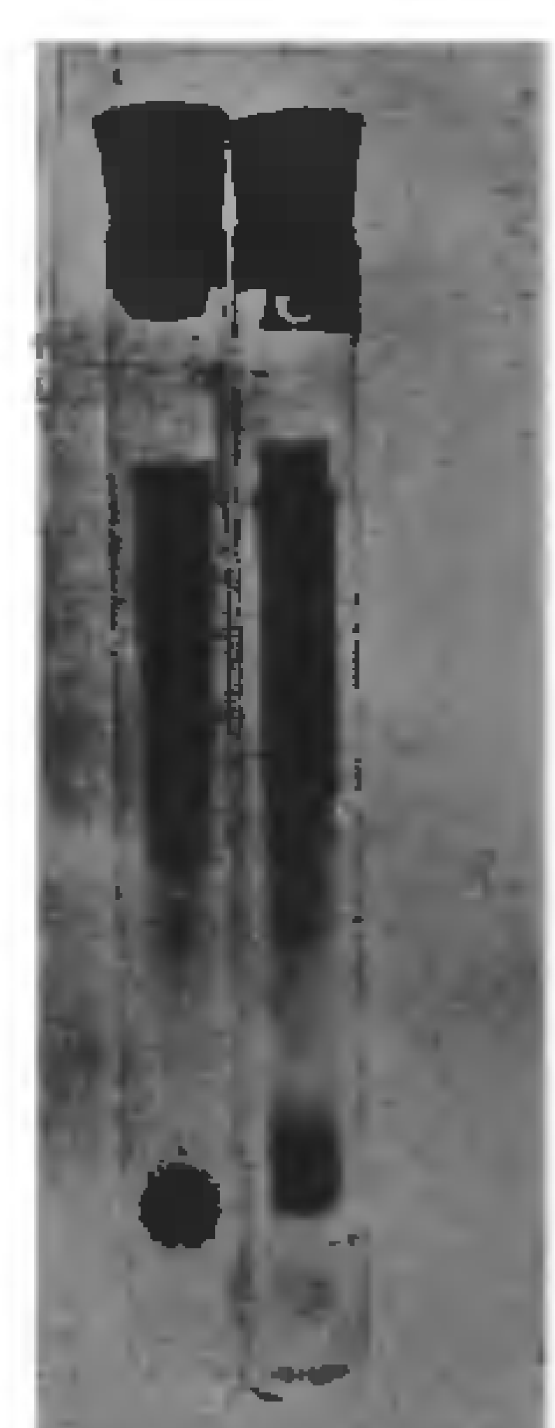

FIG. 2. SDS-polyacrylamide gel electrophoresis of the apoproteins of VLDL and LDFG.

Picture: VLDL and LDFG.

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A BRIEF NOTE ON THE GEOLOGY AND OCCURRENCE OF URANIUM AT BODAL, DISTRICT RAJNANDGAON (M.P.)

In the course of radiometric survey in the year 1973 in parts of Rajnandgaon District (M.P.)., moderately high radioactivity was discovered by the author in hornblende-quartz-biotite rocks—an uncommon host for uranium—exposed SW of Bodal village. Some of the surface samples have assayed more than 0·1% U 308 (Chem).

The outcrops showing uranium mineralisation exhibit shades of dark green colour with reddish-brown and yellowish encrustations of hydrated oxides of iron. They are generally fine-grained, with occasional porphyritic texture and are composed of hornblende, quartz and biotite in a groundmass of fine-grained equigranular quartz, Pyrite, ilmenite, Fe-oxides, occasional feldspar and calcite occur as accessories. Hornblends occurs in prismatic and acicular forms and sometimes in resette clusters. Under the microscope, hornblende is seen to alter to biotite and chlorite and the released calcite and iron oxides permeate into the microfractures. Wherever the rock is mineralised, the black oxide of uranium is found to be associated with the iron oxides. Quartz is often brecciated and crushed and the microfractures as well as the intergranular spaces are often occupied by veins of hornblende quartz and pennenite.

In the area under consideration, the radioactive hornblende-quartz-biotite rocks form a part of the geological setting comprising—(*a*) Ferruginous rhyolitic rocks together with quartz porphyry—their hypabasal equivalents. The former is profusely intruded by quartz veins containing frequent shows of Pb–Cu mineralisation, as in Karamtara, 8 km. NE and Thelkhadand, 6 Km. south of Bodal. (*b*) Basic rock complex occurring as extensive massive bodies or huge dykes cutting across the quartz porphyry and ferruginous rhyolitic rocks and chiefly made up of pyreboles, biotite and Ca-plagioclase. (*c*) Light coloured biotite granites, which are presumably the southward continuation of Dongragarh granites, occurring in the southern and western margins of the area.

The basic rock complex shows frequent textural and compositional variations and the uraniferous hornblende-quartz-biotite rocks are by far the most conspicuous and easily discernible member of this complex. They display numerous vertical to sub-vertical joints and shear fractures, the most dominant shear direction being N40° W. This shear-zone is characterized by the presence of brecciated and recrystallised quartz and is marked by the crude alignment of the lath-shaped minerals and moderately high radioactivity.

From the field and laboratory investigations of various rock types it appears that the radioactive hornblende quartz-biotite rocks are a hybrid product resulting from partial melting and assimilation of quartz porphyry by some basic intrusion. This view is supported by the presence of xenoliths of the latter enclosed in these rocks as well as traces of poorly assimilated rocks found sporadically in the area.

It is suggested that the origin of uranium and other polymetallic mineralisation may be associated with the late hydrothermal phase related to granitic intrusions along the main N 40° W shear zone, during orogenic cycles in the post-Amgaon period. The evidence of hydrothermal activity is afforded by the presence of criss-crossing quartz veins, appearance of chlorite, biotite and pennenite veinlets and ferrugination of the rocks, especially along the shear zone.

Detailed radiometric survey indicated that the surface manifestation of radioactivity can be followed along N 40° W trend intermittently for a strike length of 750m. Further, to the north-west and south-east, the rocks go under thick soil cover. Radon emanation survey was undertaken to investigate the soil-covered area. In the north-western soil-covered portion of the area, the radon values in a few patches exceed 200 times the background value, forming a 300 m. long amonalous zone in the N 40° W direction.

Sub-surface exploration by borehole drilling is in progress for proving the potentiality of this deposit. Results so far achieved have been reported to be encouraging. There is every likelihood that this interestting uranium occurrence may, in near future, turn out to be an economic deposit.

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