Elution and partial characterization of immunoglobulins bound to ovine placenta

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Abstract:

Summary lmmunoglobulins were eluted from placentae and Characterized by immunoprecipitation. electrophoresis. western blotting and ELISA. IgG was shown to comprise the bulk of placental-bound Immunoglobulins while smaller amounts of IgM arid onlv trace amounts 01' IgA were demonstrated. Results suggest thar ovine placental lgG eluted by surgical cannulation of the uterine blood vessels in situ is similar to that eluted from postpartum piacentae in vitro.implying that there may be some transfer of antibodies across the maternal side of the placental barrier to the trophoblast. These antibodies are rich In IgG, and igG,. have a relative molecular weight of 158 kDa. and bind to an 80 kDa peptide prepared from pre-acidified ovine placental cotyledons. We propose that the binding of placental IgG to the SO kDa antigen may prevent immunological rejection of the loerus by competitively excluding cytotoxic cells of maternal origin such as N K cells .. Also. given that a SImilar antigen (80 kDa) has been reported in humans and equines. and shown to be saturated with IgG in term placentae. we propose that this antigen may be conserved in several mammalian species for reproductive purposes. Consequently. we suggest that the ovine placental IgG and the 80 kDa autrgen may be suitable as models lor the study of maternal-foetal interactions in mammalian pregnancies. Key words: abortions. immunog!obulins.