G10

Effects of the L-arginine supplementation in the fetal development alterations in a congenital chagas disease mouse model

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A nutritional protein deficit would induce modifications in fetal development, parasitemia and congenital Chagas transmission, while arginine intake would improve this situation. Female mice (C3H strain) were feeded with hypoproteic (H), and normoproteic (N) diets during a month, some of them were provided also with 0.1% of arginine (Arg). They were infected with *Trypanosoma cruzi* trypomastigotes and were sacrificed at 14th day of gestation. It was evaluated maternal parasitemia, embryos and absorptions quantity; embryos and placentae size, and uterine horns weight. The H diet increased infection effects, affecting fetal development and maternal parasitemia. Arg improved protective effects, with fetal size increment, reduced embryo absorptions and maternal parasitemia. The high incidence of pregnant women affected with Chagas disease are related to deficient diets that would affect fetal development, and would be associated with susceptibility to congenital transmission. The Arg supplementation improve fetal development in the acute phase of Chagas infection, possible due to the nourishment increment including sources for nitric oxide production.
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Keywords: Congenital Chagas disease, fetal development, *Trypanosoma cruzi*, L-Arginine, protein restriction

H-Reproductive immunology

H1

Functions of uterine natural killer cells in early implant sites

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Background: Decidual leukocytes and vessels have dynamic relationships during early pregnancy. Although uterine Natural Killer (uNK) cells dominate early decidua basalis, little functional information is available before they trigger spiral arterial remodeling. UNK cell roles were addressed between gestation days (gd) 4.5-9.5.
Methods: Implant sites from *Rag2*$^{-/-}$*Il2rg*$^{-/-}$ females without (alymphoid) or with NK+ B- T- marrow grafts and BALB/c$^{+/+}$ controls allogeneically mated by males with ubiquitous GFP expression were examined. Living intact tissue was stained with fluorochrome-tagged antibodies to endothelium and leukocytes. Photomicrographs were evaluated.
Results: Alymphoid implant sites were 24h delayed in uterine lumen closure and trophoblast invasion. Mesometrial angiogenesis and pruning of vascular networks were deficient. The typical gd6.5 conversion of leukocytes to CD31+ was absent. NK+B-T- marrow transfer reversed all anomalies.
Conclusions: uNK cell functions in early-pregnancy are decidual development and angiogenesis including new vessel pruning.
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Keywords: Angiogenesis, Trophoblast; Uterine NK cells, Whole mount immunohistochemistry