**Table S4.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Positive outcomes‡** |
| **Low-protein diet** |  |  |  |
| AKPOM & WARREN, 1975a | 8% and 4% protein diet | Parasitological | Reduced eggs production and viability. |
| 50% calorie-deficient | Reduced egg output by the worms and mortality rate. |
| 8% protein | Histopathological | None |
| 4% protein | Reduced liver damage. |
| 50% calorie-deficient |
| 8% protein | Immunological and/or biochemical | None |
| 4% protein |
| 50% calorie-deficient |
| AKPOM & WARREN, 1975b | 12% protein diet | Histopathological | Suppression of granuloma formation and reduced liver damage. |
| 8% protein diet |
| 4% protein diet |
| 50% calorie-deficient diet |
| 25% calorie-deficient diet |
| AKPOM, 1981 | Low-protein diet | Histopathological | None |

**Table S4 *(continuation)*.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | | **Positive outcomes‡** | |
| BARROS *et al*. 2014 | Low-protein diet | Parasitological | Reduced oviposition and eggs number in the liver and intestine in acute and chronic infection. Increased number of degenerated or dead eggs. | |
| Histopathological | Reduced liver fibrosis in the chronic infection. Reduced volume of liver granulomas in acute and chronic infections. Absence of pipe-stem-like fibrosis. | |
| Immunological and/or biochemical | No influence on the activation of hepatic stellate cells. Reduced TGFβ-1 and liver collagen levels in the acute phase and chronic infections. | |
| BARROS *et al*. 2009 | Low-protein diet | Histopathological | Reduced granulomas size, portal inflammation, liver fibrosis and mass. | |
| Immunological and/or biochemical | None | |
| BHATTACHARYYA *et al*. 1965 | 4% casein diet | Histopathological | Reduced fat-liver disease, fibrosis, reticular fibers disorganization, granulomatous phlebitis and periportal sclerosis. | |
| Choline-deficient diet | None | |
| 4% casein diet |
| COUTINHO-ABATH et al. 1962 | 8% casein (low-protein diet) | Histopathological | Reduced inflammatory infiltrate. | |
| 60% casein (high-protein diet) | Liver regeneration was more widespread, the whole parenchyma exhibited diffusely enlarged hepatocytes. | |

**Table S4 *(continuation)*.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Positive outcomes‡** |
| COUTINHO *et al*. 1997 | Low-protein diet (RBD) | Parasitological | Reduced number of worms and eggs in the liver. |
| Histopathological | Reduced liver and spleen hypertrophy, volumetric and numerical density of granulomas. Reduced inflammatory infiltrate and liver fibrosis. |
| Immunological and/or biochemical | Reduced collagen content |
| COUTINHO *et al*. 1991 | Low-protein diet (RBD) | Histopathological | Reduced liver cellularity and exudative periovular reaction. |
| Immunological and/or biochemical | None |
| Low-protein diet (7.82% casein) | Histopathological | Most of the periovular granulomas were of the productive (non-exudative) type. |
| Immunological and/or biochemical | None |
| COUTINHO, 2004 | Experiment I Low-protein diet | Histopathological | Reduced volume density and mean size of periovular granulomas. Reduced liver fibrosis. |
| Immunological and/or biochemical | Reduced liver collagen content. |
| Experiment II Low-protein diet | Histopathological | Reduced size of periovular granulomas and mild non-specific reactional hepatitis. |
| Experiment III Low-protein diet 1 | Histopathological | Reduced granuloma size and volume density. Absence of pipe-stem periportal fibrosis. |
| Low-protein diet 2 | None |
| Experiment IV Low-protein diet | Immunological and/or biochemical | Reduced serum levels of soluble egg antigens and specific antibodies IgG1, IgG2a, IgG2b, and IgG3. |

**Table S4 *(continuation)*.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Positive outcomes‡** |
| COUTINHO *et al*. 2003 | Low-protein diet | Histopathological | Reduced volume and numerical densities of egg granulomas. Reduced mean size of periovular granulomas. Absence of pipe-stem periportal fibrosis in chronic infection. |
| Immunological and/or biochemical | Reduced collagen content. |
| COUTINHO *et al*. 2007 | Low-protein diet | Parasitological | None |
| Histopathological | Reduced liver granuloma size and volume density. Reduced fibrosis. |
| Immunological and/or biochemical | Reduced hepatic collagen content. |
| COUTINHO et al. 2002 | Low-protein diet | Histopathological | None |
| COUTO et al. 2002 | Low-protein diet | Histopathological | None |
| OLIVEIRA et al. 2004 | Low-protein diet (RBD) | Parasitological | None |
| Histopathological | Reduced periovular granuloma size in liver. |
| Immunological and/or biochemical | Reduced liver collagen content. Reduced IFN-γ (Th1 cytokine) levels. Reduced SEA-specific IgG1, IgG2b and IgG3 antibodies levels. |
| RAMOS et al. 2006 | Low-protein diet (RBD) | Immunological and/or biochemical | None |

**Table S4 *(continuation)*.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Positive outcomes‡** |
| KNAUFT & WARREN, 1969 | 12% protein diet | Parasitological | Reduced number of eggs in liver tissue per worm pairs. |
| 8% protein diet |
| 4% protein diet |
| 50% and 25% calorie-deficient diet |
| 12% protein diet | Histopathological | None |
| 4% protein diet | Reduced spleen hypertrophy, granuloma number and size. |
| 8% protein diet |
| 50% and 25% calorie-deficient diet |
| 12% protein diet | Immunological and/or biochemical | The serum globulins rose in all of the groups except those on the most severely deficient diets (50% calorie-deficient, 4% protein). |
| 8% protein diet |
| 4% protein diet |
| 50% and 25% calorie-deficient diet |
| SIMÕES et al. 2002 | Low-protein diet | Parasitological | Reduced eggs deposition in the distal segment of the small intestine. |

**Table S4 *(continuation)*.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Positive outcomes‡** |
| **High-fat diet** |  |  |  |
| ALENCAR *et al*. 2009 | High-fat diet | Parasitological | None |
| Histopathological |
| Immunological and/or biochemical |
| Da SILVA et al. 2012 | High-fat diet | Histopathological | None |
| De BARROS ALENCAR et al. 2012 | High-fat diet | Histopathological | None |
| Immunological and/or biochemical |
| GÓES et al. 2012 | High-fat diet | Histopathological | None |
| NEVES et al. 2006 | High-fat diet | Histopathological | Reduced hepatic fibrosis. |
| Immunological and/or biochemical | None |
| NEVES et al. 2007 | High-fat diet | Parasitological | None |
| Histopathological | None |
| Immunological and/or biochemical | None |

**Table S4 *(continuation)*.** Qualitative description of main positive**‡** and negative outcomesreported in all studies included in the systematic review.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | | **Measure outcomes** | **Positive outcomes‡** |
| **Vitamin or mineral interventions** | | |  |  |
| AKPOM & WARREN, 1975b | | Thiamine-deficient diet | Histopathological | Reduced granulomas number and size. |
| Riboflavin-deficient diet | Reduced granuloma size. |
| Pyridoxine-deficient diet |
| Pantothenic acid-deficient diet | None |
| Vitamin-C-deficient diet | Suppression of granuloma formation. |
| HELMY et al. 2009 | | Zinc supplementation | Parasitological | Reduced worm load and egg deposition in the liver and intestine. |
| Histopathological | Reduced number and size of portal granulomas. |
| Immunological and/or biochemical | Reduced ALT and AST activities. |
| **High-sugar diet** | |  |  |  |
| MAGALHÃES et al. 1978 | | High-sugar diet | Parasitological | None |
| **Others dietary interventions (camel milk)** | | |  |  |
| MAGHRABY et al. 2005 | | Diets containing colostral and mature camel milk | Parasitological | None |
| Immunological and/or biochemical | Increases Glutathione S-transferase (GST) activity. |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| **Low-protein diet** |  |  |  |
| AKPOM & WARREN, 1975a | 8% and 4% protein diet | Parasitological | Higher mortality rate. |
| 50% calorie-deficient | None |
| 8% protein | Histopathological | Chronic infection resulted in similar hepatomegaly, splenomegaly, liver necrosis and fibrosis in both dietary strategies. |
| 4% protein |
| 50% calorie-deficient |
| 8% protein | Immunological and/or biochemical | Anemia more severe (reduced hematocrit). |
| 4% protein | Severe anemia (reduced hematocrit). Reduced serum albumin and high portal pressure. Increased ascites occurrence 50%. |
| 50% calorie-deficient | None |
| AKPOM & WARREN, 1975b | 12% protein diet | Histopathological | None |
| 8% protein diet |
| 4% protein diet |
| 50% calorie-deficient diet |
| 25% calorie-deficient diet |
| AKPOM, 1981 | Low-protein diet | Histopathological | None |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| BARROS *et al*. 2014 | Low-protein diet | Parasitological | None |
| Histopathological | Similar liver fibrosis in the acute phase. |
| Immunological and/or biochemical | None |
| BARROS *et al*. 2009 | Low-protein diet | Histopathological | Reduced volume density of hepatocytes |
| Immunological and/or biochemical | Reduced albumin serum levels. |
| BHATTACHARYYA *et al*. 1965 | 4% casein diet | Histopathological | None |
| Choline-deficient diet | Increased organic debility, and high mortality rate. |
| 4% casein diet | Disorganization liver parenchyma, isolation of hepatic lobules by fibrotic bands, and nodular cirrhotic lesions. |
| COUTINHO-ABATH et al. 1962 | 8% casein (low-protein diet) | Histopathological | Reduced areas of fiver regeneration, which was restricted to the periportal areas. |
| 60% casein (high-protein diet) | Intense inflammatory infiltrate. More intense oviposition, exudation and numerous granulomas constituted by lymphoplasmocytic cells. |
| COUTINHO et al. 1997 | Low-protein diet (RBD) | Parasitological | None |
| Histopathological |
| Immunological and/or biochemical |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| COUTINHO *et al*. 1991 | Low-protein diet (RBD) | Histopathological | There were no significant differences in splenic and intestinal lesions. |
| Immunological and/or biochemical | Reduced soluble hepatic proteins content and serum protein fractions. |
| Low-protein diet (7.82% casein) | Histopathological | None |
| Immunological and/or biochemical | Reduced soluble hepatic proteins content and serum protein fractions. |
| COUTINHO, 2004 | Experiment I Low-protein diet | Histopathological | Increase liver hypertrophy. |
| Immunological and/or biochemical | None |
| Experiment II Low-protein diet | Histopathological | None |
| Experiment III Low-protein diet 1 |
| Low-protein diet 2 | Increased numerical density of liver granulomas and pipe-stem fibrosis. |
| Experiment IV Low-protein diet | Immunological and/or biochemical | None |
| COUTINHO *et al*. 2003 | Low-protein diet | Histopathological | None |
| Immunological and/or biochemical | None |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| COUTINHO *et al*. 2007 | Low-protein diet | Parasitological | Reduced egg burdens |
| Histopathological | Similar numerical density of liver granulomas. |
| Immunological and/or biochemical | None |
| COUTINHO et al. 2002 | Low-protein diet | Histopathological | Development of ascites, portal hypertension and hepatosplenomegaly. |
| COUTO et al. 2002 | Low-protein diet | Histopathological | Similar size and composition of the intestinal granulomas. |
| OLIVEIRA et al. 2004 | Low-protein diet (RBD) | Parasitological | Similar egg numbers/g of liver. |
| Histopathological | None |
| Immunological and/or biochemical | Reduced IL-5 (Th2 cytokine) levels. IL-4 (Th2 cytokine) production was not detected. |
| RAMOS et al. 2006 | Low-protein diet (RBD) | Immunological and/or biochemical | Reduced of IL-4 and IL-10 serum levels. |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| KNAUFT & WARREN, 1969 | 12% protein diet | Parasitological | There was a significant increase in worm load. |
| 8% protein diet |  |
| 4% protein diet | None |
| 50% and 25% calorie-deficient diet |  |
| 12% protein diet | Histopathological | Increased liver and spleen hypertrophy, as well as granulomas size. |
| 4% protein diet | None |
| 8% protein diet |
| 50% and 25% calorie-deficient diet |
| 12% protein diet | Immunological and/or biochemical | Reduced hematocrit and albumin serum levels. |
| 8% protein diet |
| 4% protein diet |
| 50% and 25% calorie-deficient diet |
| SIMÕES et al. 2002 | Low-protein diet | Parasitological | Similar kinetics of egg excretion and worm recovery. |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| **High-fat diet** |  |  |  |
| ALENCAR *et al*. 2009 | High-fat diet | Parasitological | Increased total eggs output, eggs viability and accumulation in liver tissue. Higher distribution of intestinal eggs. |
| Histopathological | Increased liver and spleen hypertrophy (hepatosplenomegaly). |
| Immunological and/or biochemical | Increased total cholesterol levels before and after infection. |
| Da SILVA et al. 2012 | High-fat diet | Histopathological | Increased inflammatory infiltrate and splenomegaly. Reduced megakaryocytic cells number. |
| De BARROS ALENCAR et al. 2012 | High-fat diet | Histopathological | Liver granulomas at different stages of maturation, whereas the control group presented only exudative forms. Increased granuloma and egg numbers during chronic infection. |
| Immunological and/or biochemical | Increased total cholesterol levels before and after infection. |
| GÓES et al. 2012 | High-fat diet | Histopathological | Reduced numerical density and total number of cardiomyocytes. Cellular hypertrophy, thickening of vessel walls, reduced lumen diameter and diffuse myocardial damage. |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| NEVES et al. 2006 | High-fat diet | Histopathological | Increased liver steatosis, sinusoidal collapse, binucleated hepatocytes and areas of hepatic regeneration. |
| Immunological and/or biochemical | Increased serum levels cholesterol and its fractions. |
| NEVES et al. 2007 | High-fat diet | Parasitological | Increased eggs excretion. Similar infectivity and intestine eggs number, number of mature and immature eggs. |
| Histopathological | The livers showed exudative, exudative/exudative-productive, exudative-productive and productive granulomas. Similar granulomas number and size. Hepatic steatosis and focal necrosis. |
| Immunological and/or biochemical | Increased triglycerides, HDL-C, LDL-C serum levels |
| **Vitamin or mineral interventions** | |  |  |
| AKPOM & WARREN, 1975b | Thiamine-deficient diet | Histopathological | None |
| Riboflavin-deficient diet |
| Pyridoxine-deficient diet |
| Pantothenic acid-deficient diet | Similar granuloma number and size. |
| Vitamin-C-deficient diet | None |
| HELMY et al. 2009 | Zinc supplementation | Parasitological | None |
| Histopathological |
| Immunological and/or biochemical |

**Table S4 *(continuation)*.** Qualitative description of main positive and negative\* outcomesreported in all studies included in the systematic review.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author/Year** | **Dietary strategy** | **Measure outcomes** | **Negative outcomes\*** |
| **High-sugar diet** |  |  |  |
| MAGALHÃES et al. 1978 | High-sugar diet | Parasitological | Similar number of liver granulomas per worm. |
| **Others dietary interventions (camel milk)** | |  |  |
| MAGHRABY et al. 2005 | Diets containing colostral and mature camel milk | Parasitological | Reduced worm burden. |
| Immunological and/or biochemical | Similar ALT and AST activities as well as IgG serum levels. |