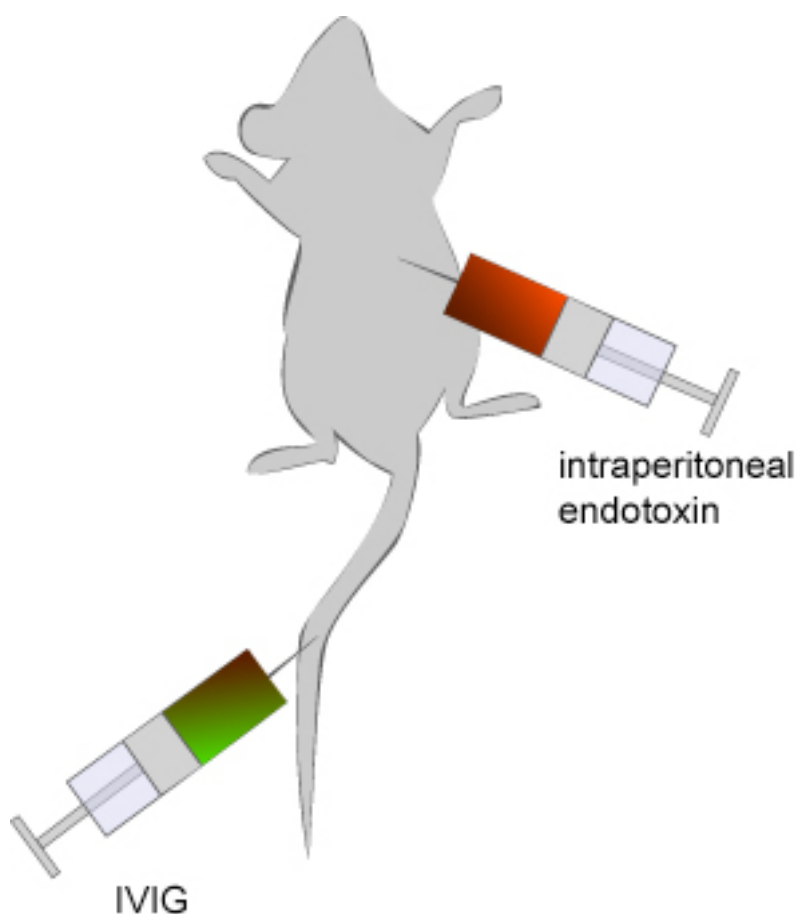


Animal Experiments to find clinical treatment protocols

Bordet, Belgian bacteriologist, 1870-1961, Nobel Prize 1919), discovers the complement system by using animal experiments. He injects rabbit red blood cells to guinea pig peritoneum together with fresh serum (containing complement) and observes hemolysis. Bordet's work leads to discovery of bacteriolysis. Animal experiments, today supervised by state agencies and animal protection agencies, serve to develop drugs which should help elimination of chronically circulating and/or tissue deposited immune complexes. If animal experiments have not always led to groundbreaking discoveries of new therapeutic concepts (example: beneficial activity of i.v. immunoglobulins (IVIG) (see: Clinical Pathology, Flash animation of immune complex diseases and IVIG), they remain important for testing drugs prior their introduction into phase I, II or III studies. Animal experiments have supported introduction of the following drugs used to treat immune complex disease steroids, 6-mercaptopurin (6-MP), methotrexate (MTX) among others. 6-MP and MTX were discovered whilst treating experimental autoimmune thyroiditis of guinea pigs. Cyclophosphamide (Cy), cyclosporine (CsA), tacrolimus, everolimus, mycophenolate mofetil, hydroxychloroquine, leflunomide, talidomide, etanercept as well as an array of monoclonal antibodies including infliximab, basiliximab, rituximab, dclizumab and eflizumab have been tested with animal experiments. They might serve as adjuvants in certain immune-complex diseases.



An example is shown here: endotoxin is injected intraperitoneally to mimic sepsis. Protective anti-endotoxin antibody, perhaps contained in or spiked into i.v. immunoglobulins (IVIG), may be infused through a tail vein and protect the animal.