

Renal transplantation in dogs: update and perspectives

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INTRODUCTION

- Kidney transplant in dogs is carried out when there is evidence of renal decompensation or irreversible acute or chronic renal disease.
- Cats have a higher success rate than dogs because of their immune system
 - Canine programs have been less successful but are also available in limited facilities
- Animals are treated chronically with immunosuppressants, predisposing to the onset of secondary infections.

OBJECTIVES

- The aim of this review are:
 - To identify the current situation in renal transplantation in cats and dogs
 - To find out the technical and practical implications in the procedure.
 - To identify the main difficulties and complications of the process.
 - To learn about the options that are proposed nowadays.
 - To establish the point of view in this subject: future, humans, ethics.

METHOD

A bibliographic review of different articles and studies on kidney transplantation in cat and dog has been made in addition to contacting experts in this field

RESULTS

Usual treatment

CYCLOSPORINE A

To reduce the rejection of allograft

Disadvantages

OTHER OPTIONS

- Tacrolimus
- Azathioprine
- Others

- To reduce costs
- To reduce dosage

- High costs
- Pharmacological interactions
- Adverse effects

THE MAIN COMPLICATION OF RENAL TRANSPLANTATION

REJECTION

- Hyperacute
- Acute
- Chronic

- Mesenchymal stem cells
- Tolerance and chimerism

ALTERNATIVES

CONCLUSIONS

- Successful kidney transplants in cats have been going on for many years and so currently. On the other hand, canine renal transplantation represents a greater challenge. Moreover, dogs generally develop graft rejection.
- Requirements for donor and recipient must be accomplished, compatibility screening tests are studied; in addition, facilities and professional surgeons are needed.
- The main challenge of this process are finding a compatible donor, the costs involved as well as achieving the appropriate immunosuppressive treatment.
- Several studies with valid results have been carried out but none of them ensures total success. Many obstacles besides immunosuppression must be overcome in order to be successful in the transplantation of organs in veterinary medicine.
- Canine renal transplantation remains an active research focus, several authors are conducting studies with prospects for the future.
- On the other hand, kidney transplantation in humans is routinely done.



In memoriam of Wanda, June 23 2018