

Management of kidney transplant immunosuppression in positive coronavirus infection requiring hospital admission

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1.- Kidney transplant recipient < 60 years:

- **Without pulmonary infiltrates:** Maintain immunosuppressive treatment unchanged.

If you start treatment with hydroxychloroquine, decrease tacrolimus and iMTOR dose by 20% of input (due to the interactions between tacrolimus and iMTOR and chloroquine) and then always monitor levels every 48 hours and maintain tacrolimus levels: 4-6 ng/ml

- **With pulmonary infiltrates:**

- **Without hipoxemia or fever:**

1.- Stop only MMF and maintain tacrolimus¹ (levels 4-6 ng/ml) and prednisone 20 mg daily.

- **With hipoxemia (with need of oxigen) or fever:**

1.- Stop tacrolimus and MMF (or iMTOR) and keep only with prednisone 20 mg daily for the first 4 days.

2.- From the 5th day of admission, if the clinical situation improves (no fever and does not need oxygen): Restart tacrolimus¹ to maintain levels of 4-6 ng/ml associated with 20 mg prednisone.

3.- From the 5th day of admission, if the clinical situation does not improve (persists with fever or need for oxygen), maintain only with prednisone 20 mg daily. Tacrolimus¹ will be started again as in point 2 when it improves.

2.- Kidney transplant recipient > 60 years:

- **Without pulmonary infiltrates:** Stop MMF and maintain tacrolimus (levels 4-6 ng/ml) and prednisone (usual dose, do not increase to 20 mg)

- **With pulmonary infiltrates:**

- **Without hipoxemia or fever:**

1.- Stop MMF, decrease tacrolimus for levels 3-5 ng/ml and maintain prednisone (usual dose, do not increase to 20 mg)

- **With hipoxemia (need for oxigen) or fever:**

1.- Stop tacrolimus and MMF (ori MTOR) and keep only with prednisone 20 mg daily for the first 4 dyas

2.- From the 5th day, if the clinical situation improves (no fever and does not need oxygen): Restart tacrolimus¹ to maintain levels of 3-5 ng/ml associated with prednisone 20 mg daily

3.- From the 5th day, if the clinical situation does not improve (persists with fever or need for oxygen), maintain only with prednisone 20 mg daily. Tacrolimus¹ will be started again as in point 2 when it improves.

¹If you start or are already on hydroxychloroquine, decrease tacrolimus and iMTOR dose by 20% of entry (due to the interactions between tacrolimus and iMOTR and chloroquine).

3.- Kidney transplant patient who has been contact with a positive coronavirus patient and has no symptoms:

Start with hydroxychloroquine 200 mg/12 hours during 5 days.

Decrease tacrolimus or iMTOR dose by 20% during the 5 days and then return to tacrolimus and iMTOR usual dose

Rest of immunosuppression unchanged

Antivirals:

- Hydroxychloroquine: 200 mg/12 hours 5-7 days: It interacts with CNI and iMTOR. Close monitoring of levels is recommended. When starting, decrease the dose of CNI and iMTOR by 20%
- Avoid the use of ritonavir/lopinavir: with iMTOR ins not recommended and with CNI it can be used but levels increase. Avoid its use for important side effects too.
- Remdesevir: can be used without interactions, but is subject to clinical trial.
- Tocilizumab: can be used without interactions
- Iv Ig: its use is not recommended due to multiple patient contact.