

RENAL TRANSPLANTATION (SECONDARY TO END-STAGE RENAL DISEASE)

1. Medical Condition

The aetiology of the end-stage renal disease necessitating transplantation must be well documented with confirmation by the attending surgeon and renal physician. Although uncommon in elite athletes, recent cases of renal transplantation in high-profile athletes have been reported.

2. Diagnosis

The diagnosis of end-stage renal disease must be accompanied by an appropriate history of documented decline in renal function confirmed by a renal physician.

A report from the treating surgeon including surgical procedures must also be provided.

It is necessary to provide the history of declining renal function and associated evidence that the criteria for renal transplantation have been met. This may be provided by the family physician with appropriate endorsement from a registered nephrologist.

3. Good Medical Practice

In the management of post-transplant patients, it is possible that combination therapy may be required including the use of:

- Glucocorticoids (GCs)
- Beta-Blockers
- Diuretics
- Erythropoietin (EPO) or agents stimulating EPO release (ESA in different forms such CERA and pergylated forms)

4. Route of administration

All agents should be administered orally with the exception of erythropoietin either intravenously or via subcutaneous injection.

5. Frequency of administration

Daily doses of GCs (5-10mg daily for maintenance), beta-blockers, diuretics and EPO in accordance with current guidelines (see references). For EPO the current guidelines recommend a target haemoglobin of up to 120g/L. EPO should not be prescribed or continued if hemoglobin is greater than 120g/L. At present, Hypoxia-inducible factor (HIF) proyl-hydroxylase inhibitors (GSK 1278863 and FG 2216) have not been recommended for clinical use, and should not be used.

6. Recommended duration of treatment

The treatment is life-long with recommended annual review by a renal physician.

7. Other non-prohibited alternative treatments

Following renal transplantation, there is no other appropriate, non-prohibited treatment available.

8. Consequences to health if treatment is withheld

Given that the criteria for renal transplantation have been met, the consequences of withholding prescribed treatment from these individuals will impact significantly upon the function of the transplanted kidney as well as the health of that individual. This applies to immunosuppressive therapy (GCs) and cardiovascular medications (including Beta-blockers).

Most renal transplant recipients will present a history of hypertension secondary to chronic renal disease. Untreated, hypertension appears to be linked to reduced long-term graft and patient survival. Thus, anti-hypertensive therapy, including diuretics, where indicated is essential.

In cases where moderate graft impairment is confirmed, patients may require EPO supplementation due to reduced EPO production. EPO therapy is indicated as per guidelines for the management of anaemia associated with chronic kidney disease.

9. Treatment monitoring

Routine assessment of renal function including monitoring of blood pressure will be at the discretion of the renal physician. Haematological and biochemical parameters are routinely measured, so a record of values are readily available to detect any unexpected changes. As noted previously, EPO should not be prescribed or continued when hemoglobin values are greater than 120 g/L.

10. TUE validity and recommended review process

Lifetime therapy in accordance with clinical status and an annual review is acceptable. Any changes to the therapeutic regime involving prohibited agents should be well documented and endorsed by a renal physician and form the basis of a revised TUE.

At annual review, athletes treated with EPO should have blood tests including hemoglobin, hematocrit, red blood cell count, reticulocyte count. Values for these parameters over the preceding 12 months should be provided to detect any unexpected changes.

The recommended validity of a TUE for a case of renal transplantation is 10 years, with an annual review required to revalidate, as described above.

11. Any appropriate cautionary matters

Renal transplantation in elite athletes is not a common occurrence. However there are documented contemporary cases and the consistent application of good practice guidelines is essential.

References

1. 2003 European Society of Hypertension- European Society of Cardiology New Guidelines for treatment of Hypertension J Hypertens. 2003 Jun; 21(6):1011-53
2. KDOQI clinical practice guidelines for chronic kidney disease: Evaluation, classification, and stratification. Kidney Disease Outcome Quality Initiative. Am J
3. Kidney Dis 39:S1-S266, 2002 (suppl 2)
4. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr, Jones DW, Materson BJ, Oparil S, Wright JT Jr, Roccella EJ: The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: The JNC 7 report. JAMA 289:2560-2572, 2003
5. Drueke TB, Parfrey PS. Summary of the KDIGO guideline on anemia and comment: reading between the (guide) line (s). Kidney International 2012; 82:952-960
6. Gupta N, Wish JB. Hypoxia-Inducible Factor Prolyl Hydroxylase Inhibitors: A Potential New Treatment for Anemia in Patients With CKD. Am J Kidney Dis. 2017 Jun;69(6):815–26.
7. Kidney Disease: Improving Global Outcomes (KDIGO) Anemia Work Group. KDIGO Clinical Practice Guideline for Anemia in Chronic Kidney Disease. Kidney inter., Suppl. 2012; 2: 279–335.