
Renal Disease in Pregnancy

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Consensus views



Chapter 20

Consensus views arising from the 54th Study Group: Renal Disease in Pregnancy

Service

General

1. Multidisciplinary clinics should be established to assess and care for pregnant women with kidney disease, including those women receiving dialysis and kidney transplant recipients.
2. Named experts, forming a multidisciplinary team (MDT), with appropriate facilities, need to be available to manage or advise on all women with kidney disease in pregnancy.
3. The MDT requires, as a minimum, an obstetrician, a renal/obstetric physician and a specialist midwife, all with expertise in the management of kidney disease in pregnancy.

Prepregnancy

4. Women of childbearing age with kidney disease* should be made aware of the implications regarding reproductive health and contraception.
5. Women with kidney disease* considering pregnancy should be offered prepregnancy counselling by the MDT. This active preparation for pregnancy should be individualised to each woman's needs and should involve her partner.
6. Prepregnancy counselling should allow discussion of and, where possible, modification of remediable risk factors, including consideration of familial conditions and optimisation of medications.
7. Women with kidney disease* considering *in vitro* fertilisation (IVF)/assisted reproduction should be referred for prepregnancy counselling to the MDT. Strong consideration should be given to recommending single-embryo transfer if IVF is required.
8. Women with normal or only mildly decreased prepregnancy renal function (serum creatinine below 125 $\mu\text{mol/l}$ (1.4 mg/dl)) can be advised that obstetric outcome is usually successful without adverse effects on the long-term course of their disease, although there is an increased risk of antenatal complications including pre-eclampsia.

* Including those women receiving dialysis and kidney transplant recipients.

Antenatal

9. Women with kidney disease* should be offered low-dose aspirin as prophylaxis against pre-eclampsia, commencing within the first trimester.
10. The use of eGFR (estimated glomerular filtration rate) from the Modification of Diet in Renal Disease (MDRD) formula cannot be recommended for use in pregnancy.
11. Women found or suspected to have kidney disease in pregnancy should be referred to a nephrologist.
12. Women with greater than or equal to +1 dipstick positive proteinuria (in the absence of infection) should have this quantified.
13. Baseline quantification of proteinuria should be undertaken by accurate 24 hour collection for urine protein and by protein/creatinine ratio (PCR). Follow-up may then be undertaken with PCR.
14. Persistent proteinuria (above 500 mg/day) diagnosed before 20 weeks of gestation should prompt referral to a nephrologist.
15. Nephrotic syndrome is an indication for thromboprophylaxis with heparin in pregnancy and the puerperium.
16. Lesser degrees of proteinuria may constitute a risk for venous thromboembolism. This should inform the decision as to whether or not to deploy thromboprophylaxis in pregnancy.
17. Asymptomatic bacteriuria and urinary tract infection (UTI) in pregnancy should be treated.
18. Antibiotic prophylaxis should be given to women with recurrent bacteriuria/UTIs and kidney disease*.
19. Women known to have lupus nephritis or suspected lupus flare should be referred to the MDT.
20. In pregnant women with kidney disease* the target blood pressure should be below 140/90 mmHg.
21. Prednisolone, azathioprine, ciclosporin or tacrolimus alone or in combination do not appear to be associated with fetal abnormality and should not be discontinued in pregnancy, whereas the safety of mycophenolate mofetil/enteric-coated mycophenolic acid, sirolimus/everolimus or rituximab is yet to be determined.
22. Clinicians caring for women who have undergone renal transplantation and/or lower urological surgery should involve the appropriate surgical team, as part of the delivery plan, where considered necessary.
23. Renal units, in conjunction with obstetric units, should formulate a 'protocol for management of women receiving or starting dialysis in pregnancy' to be activated when a dialysis patient becomes pregnant or a pregnant woman requires new dialysis.

Postpartum

24. Women with known or newly identified kidney disease in pregnancy should resume their established care with a planned early postpartum renal review.

* Including those women receiving dialysis and kidney transplant recipients.

25. Women with known or newly identified kidney disease in pregnancy should be offered early contraceptive advice.
26. Postnatal evaluation of women with early-onset (necessitating delivery before 32 weeks of gestation) pre-eclampsia is important to identify women with underlying renal disease.
27. Isolated microscopic haematuria with structurally normal kidneys does not need to be investigated during pregnancy but should be evaluated if persistent postpartum.

Education

28. Educational programmes for healthcare professionals managing women of childbearing age with kidney disease* should be developed.
29. Educational resources should be made available to women themselves.

Research

30. Define biomarkers that will effectively predict those women with kidney disease who are at particular risk of specific complications or poor maternal/fetal outcome.
31. Establish and fund registry data collection and facilitate research on outcomes of women and their offspring with kidney disease*.
32. Provide level I evidence (randomised controlled trials) to inform discussion about 'tight blood pressure control' versus less tight control in pregnant women with kidney disease*.
33. Evaluate excretion into breast milk and relevance to wellbeing of the neonate of drugs used by women with kidney disease*.
34. Evaluate the use of imaging modalities to improve differentiation of physiological hydronephrosis of pregnancy from true urinary tract obstruction.
35. Define precisely the time course and mechanism(s) of renal and systemic haemodynamic alterations in health and disease, especially during early pregnancy.
36. Evaluate novel therapeutic strategies such as administration of relaxin in humans.
37. Investigate the altered gestational and postpartum natriuretic responses, and their relationship to plasma volume expansion, in normal pregnant women and in those with kidney disease*.
38. Establish precisely what degree of non-nephrotic proteinuria constitutes a risk for venous thromboembolic disease.
39. Validate the educational programmes for patients and healthcare professionals managing women of childbearing age with kidney disease*.

* Including those women receiving dialysis and kidney transplant recipients.