

Chronic Kidney Disease

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ABSTRACT

Chronic diseases became a serious explanation for global morbidity and mortality even in developing countries. The burden of chronic renal disorder (CKD) in India cannot be assessed accurately. The approximate prevalence of CKD is 800 per million populations (pmp), and therefore the incidence of end-stage renal disease (ESRD) is 150–200 pmp. The most common explanation for CKD in population-based studies is diabetic nephropathy. India currently has 820+ nephrologists, 710+ haemodialysis units with 2,500+ dialysis stations and 4,800+ patients on CAPD. There are 172+ transplant centres, two-thirds of which are in South India and mostly privately run. Nearly 3,500 transplants are done annually, the entire number of cadaver donors being approximately 700 till now. Thus, taken together, nearly 18,000–20,000 patients (10% of latest ESRD cases) in India get renal replacement therapy. The cost of single haemodialysis varies between USD 15 and 40 with a further cost of erythropoietin being USD 150–200/month. The cost of CAPD employing a 'Y' set with 3 exchanges/week is USD 400/month. The cost of the tron the one side the government has initiated a process by which it's getting to establish stand-alone haemodialysis units within the country to extend the facilities at a reasonable cost, and on the transplant side it had launched a National transplant Program to facilitate transplantation on a national scale.

Key words: Chronic diseases; Renal disorder; Diabetic Nephropathy.

INTRODUCTION

Chronic diseases became a serious explanation for global morbidity and mortality even in developing countries. The burden of chronic kidney disease (CKD) in India can't be assessed accurately. The approximate prevalence of CKD is 800 per million populations (pmp), and therefore the incidence of end stage renal disease (ESRD) is 150–200 pmp. There are 172+ transplant centres, two-thirds of which are in South India and mostly privately run. Nearly 3,500 transplants are done annually, the entire number of cadaver donors being approximately 700 till now. Thus, taken together, nearly 18,000–20,000 patients (10% of latest ESRD cases) in India get renal replacement therapy. The cost of single haemodialysis varies between USD 15 and 40 with a further cost of erythropoietin being USD 150–200/month. Until recently, the government didn't recognize CKD/ESRD as a big problem in India. On the one side the government has initiated a process by which it's getting to establish stand-alone haemodialysis units within the country to extend the facilities at a reasonable cost, and on the transplant side it had launched a National transplant Program to facilitate transplantation on a national scale [1].

Haemodialysis program is halfway to being implemented. Thus, in India there is still a long way to go with respect to CKD. Until then, during a country like India, screening of high-risk individuals for CKD and the risk factors is the best bet. Chronic renal disorder (CKD) is recognized as a serious ill health affecting approximately 13% of the United States population. Numbers of prevalent CKD patients will continue to rise, reflecting the growing elderly population and increasing numbers of patients with diabetes and hypertension [2].

As numbers of CKD patients increase, medical care practitioners are going to be confronted with management of the complex medical problems unique to patients with chronic renal impairment. As well documented within the literature, the nephrologist rarely manages the medical needs of CKD patients until renal replacement therapy is required. In this chapter we'll define CKD staging and discuss five complications related to CKD: anaemia, hyperlipidaemia, nutrition, osteodystrophy, and cardiovascular risk.

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CKD Classification/Staging

CKD is defined because the presence of kidney damage, manifested by abnormal albumin excretion or decreased kidney function, quantified by measured or estimated glomerular filtration rate (GFR) that persists for more than three months [3]. Although creatinine clearances can be calculated from urine creatinine concentration measured in a 24 hour urine collection and a concomitant serum creatinine concentration, a more practical approach within the office is to estimate GFR (estimated GFR or eGFR)

Bleeding risk scores

The HAS-BLED, ORBIT, HEMORR2HAGES, and ATRIA bleeding risk scores all include CKD measures. Although the formal use of those bleeding risk scores has not been recommended by the majority of professional society guidelines, the increased risk of bleeding with and without OAC in CKD is well described and should be considered in clinical decision making.

Stroke prevention and oral Cardiovascular Risk

The increased cardiovascular risk related to end stage renal disease has been well established, and estimated cardiovascular mortality rates are ten to one hundred folds higher among dialysis patients than age- and sex-matched individuals within the general population.

An on-going trial, PIVOTAL,109 is recruiting 2080 HD patients across 55 sites within the UK who are being randomized to a high-dose versus a low-dose i.v. iron regimen with a planned follow-up of between 2 and 4 years. Hard end points such as death, myocardial infarction, stroke, heart failure, and infections are being assessed.

In the meantime, nephrologists would do well to recognize broadly the benefits and the limitations of i.v. iron therapy, pending further robust scientific data

Kidney disease-associated anaemia

Anaemia is defined as a discount in one or more of the main red blood corpuscle measurements; haemoglobin concentration, haematocrit, or red blood cell count. The World Health Organization defines anaemia as a haemoglobin level but 13 g/dL in men and post-menopausal women, and fewer than 12 g/dL in pre-menopausal women. The NKF defines anaemia as a haemoglobin of less than 13.5 g/dL in men and less than 12.0 g/dL in women.

CONCLUSION

Present available data do not allow any firm statement to be made on the potential dangers of high-dose iron administration and high ferritin levels. However, this conference has identified gaps in knowledge to inform future research agendas and concluded that RCTs are urgently required to address the shortfall in the evidence base.

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