

Gynecologic follow up of 129 women on dialysis and after kidney transplantation: a retrospective cohort study



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ABSTRACT

Objective: To describe the gynecologic issues and follow-up in our referral center of women on dialysis and after kidney transplantation.

Study design: This retrospective cohort study included 129 dialysed women among whom 102 had had transplants. Data on menstrual pattern, pregnancies, contraception, and cervical cytology were retrieved from patients' files.

Results: The follow-up started at age 41.6 ± 14.2 years and lasted for 9.5 ± 10.2 years. Of the women, 78.7% had regular menses before dialysis, decreasing to 30.6% on dialysis ($p < 0.001$), when 43.1% were amenorrheic ($p < 0.001$). After transplantation, more patients had regular menstruation and fewer were amenorrheic (respectively 57.1% and 23.1%, $p < 0.001$). On dialysis and after transplantation, 25% and 30.5% of patients suffered from metrorrhagia (compared to 17.1% before, $p < 0.01$). Concerning pregnancies, rates of spontaneous abortions (33.3%, $p = 0.01$), intrauterine growth retardation (28.5%, $p < 0.001$) and prematurity (23.8%, $p = 0.008$) were significantly higher after transplantation than before dialysis. Prescriptions for the combined contraceptive pill and intrauterine device decreased whereas chlormadinone acetate was widely used: it treated metrorrhagia and relieved mastodynia in 80% and 12% of the cases. Smear tests showed more inflammation (33% vs 0.8%, $p < 0.05$), condylomas (13.6% vs 3.1%, $p = 0.005$) and intraepithelial neoplasias (12.6% vs 2.3%, $p = 0.003$) among patients after renal graft than before dialysis.

Conclusion: Women on dialysis and after kidney transplantation suffered more from irregular menses and metrorrhagia which was improved by chlormadinone acetate. We noted high rates of obstetrical complications and abnormal smear tests. Consequently, this population must have close follow-up to identify and treat gynecologic issues.

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Introduction

Chronic renal failure in women is frequently accompanied by endocrine disturbances leading to anovulation and infertility. This may be partly the result of a disorder of the hypothalamic–pituitary–ovarian axis and an increase of prolactin concentrations [1–3]. Few studies have described menstrual irregularities, amenorrhea and dysfunctional uterine bleeding in women on

dialysis, which could be restored along with fertility after successful renal transplantation [4,5].

Although the likelihood of conception in women who are undergoing dialysis remains low, achieving a successful pregnancy is more even unlikely. The most extensive data concerning the frequency and outcome of pregnancy in dialysis patients came from the European Dialysis and Transplant Association (EDTA) [6]. Their report, published in 1980, included 115 pregnancies, of which only 23% were viable. Since that time, there has been not only an enormous increase in the number of women on dialysis or receiving transplants, but also great progress in the management of renal, obstetrical and neonatal issues, which has slightly improved the outcome of pregnancy [7,8].

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In accordance with these observations, the American Society of Transplantation recommends that pregnancy can be attempted at least one year after renal transplantation, if the renal function is good and stable, and in the absence of uncontrollable hypertension [9]. Therefore, all of these sexually active women should be counseled to use contraception in order to avoid unplanned pregnancy. Evidence regarding the safety and effectiveness of contraceptive methods among this population is sparse. Although the data relied on indirect parameters such as blood pressure, cholesterol and glucose, the combined contraceptive pill is believed to be relatively contraindicated because of the increased risk of cardiovascular disease [10]. In the same way, practitioners fear a decreased effectiveness of the intrauterine device (IUD) due to immunosuppressive agents among transplanted patients and an increased risk of infection—hypotheses which are based on only a couple of case reports [11,12].

Finally, the improved life expectancy of women on dialysis, and then after kidney transplantation, is due in large part to advances in long-term immunosuppressive treatment. This may, however, increase the incidence of diseases associated with human papillomavirus infection, such as cervical intraepithelial neoplasia and cervical cancer [13–15]. Systematic annual cervical screening should therefore be advised.

Despite the existence of some guidelines, optimal management of gynecologic problems in women with chronic renal failure has to be established. The purpose of this single-center study was to describe our practice and the extent of gynecologic and reproductive issues among women undergoing dialysis or having a renal transplant.

Materials and methods

A monocentric retrospective cohort study was done in our Department of Endocrinology and Reproductive Medicine, La Pitié-Salpêtrière hospital, Paris. As a referral center for rare gynecologic diseases, we have created since 2006 a database of the names of patients suffering from chronic renal failure who were followed by a gynecologist in our unit after that date. Some women began their follow up before 2006, and others consulted for the first time since then (the whole period ran from 1967 to 2012). We used this list of names to consult their medical files. Patients were included if they were suffering from chronic renal failure. They were excluded if they were not undergoing dialysis or had not received kidney transplantation. Data concerning their renal disease and their gynecologic history were collected during three periods: when they did not have renal failure, during dialysis, and after transplantation. We gathered age of menarche, frequency of menstrual periods and their patterns, and age of menopause. Regular menses were those

Table 1
Etiology of renal disease in 129 patients who had a gynecological follow up.

Renal disease	Number of women (n = 129)	
Berger's disease	16	(12.4%)
Polycystic kidney disease	14	(10.9%)
Tubulointerstitial nephritis	12	(9.3%)
Focal segmental hyalinosis	8	(6.2%)
Vascular nephritis	8	(6.2%)
Diabetic nephropathy	6	(4.7%)
Lupus nephritis	4	(3.1%)
HIV nephropathy	4	(3.1%)
Other glomerulonephritis	18	(14.0%)
Other congenital diseases than PKD	14	(10.9%)
Unknown	11	(8.5%)
Information missing in the file	14	(10.9%)

PKD: Polycystic kidney disease; HIV: Human immunodeficiency virus.

occurring every 25–35 days; oligomenorrhea was defined as intervals of more than 35 days and amenorrhea as having no menstrual periods for 6 months. We reported the contraceptive methods used during gynecological follow up: combined pill, progestogen, intrauterine device, tubal ligation, and condom. We were also interested in the rate of pregnancies and their issues such as elective abortions, obstetrical and neonatal information. Finally we reported abnormal cytology results of cervical smears.

Statistical analysis was processed with StatView version 5 (Abacus Concepts, Berkeley, CA). Descriptive statistics were performed for each variable, quantitative results are presented as mean \pm SD or median and range, and qualitative results are presented as a distribution of a number of patients. The Mann-Whitney test was used for quantitative variables and the two-tailed Fisher test to compare qualitative variables. $p < 0.05$ was considered significant.

Results

A total of 129 women have been on dialysis and 102 (79%) of them benefited from kidney transplantation. The gynecologic follow-up started when patients were 41.6 ± 14.2 years old, with a mean duration of 9.5 ± 10.2 years. The most frequent kidney diseases were Berger's disease (12.4%) and polycystic kidney disease (10.9%); the diagnosis remained unknown for 11 patients (Table 1). The mean age of diagnosis was 27.3 ± 15.3 years.

Women suffered from several cardiovascular risk factors: 71.5% had treated hypertension, 13% diabetes mellitus, 12.3% dyslipidemia, 6.9% were current smokers and 3.1% were obese (BMI ≥ 30 kg/m²). Few of them experienced cardiovascular diseases: 0.8% had myocardial infarction and 2.3% had stroke, and 10% presented an episode of venous thromboembolism.

Menstrual disorders

The average age of menarche was 13.3 ± 1.7 years. Most subjects experienced regular menstruation (78.7%) before dialysis (Fig. 1). Many of them, however, had no menstruation (43.1%, $p < 0.001$) or oligomenorrhea (25.6%, $p = 0.01$) from the time they started dialysis, while only a few maintained regular menstrual cycles (30.6%, $p < 0.001$). After kidney transplantation, the number of women with amenorrhea decreased (23.1%, $p = 0.01$), and the same trend was observed for patients with irregular menses (19.5%, NS), while the number of women with regular menstruation increased to 57.1% ($p < 0.001$).

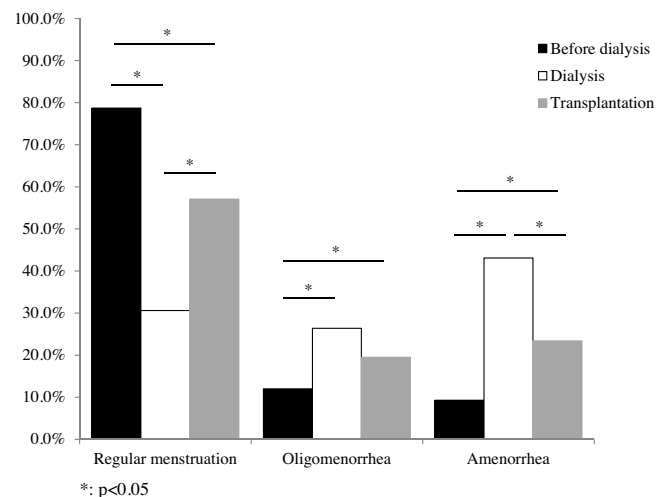


Fig. 1. Menstrual patterns of 129 patients before and on dialysis, and after kidney transplantation.

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