INPATIENT VERSUS OUTPATIENT RENAL TRANSPLANT BIOPSY: A RETROSPECTIVE STUDY COMPARING COMPLICATION RATES

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AIM:

Renal biopsy is an essential diagnostic tool, widely used in managing renal transplant recipients. Acute transplant biopsies present a different set of risk factors that have previously not been evaluated. Complication rates for these biopsies are rarely reported or analysed.[1] Our aim was to evaluate the complication rates in the unplanned transplant biopsies done for patients during admission for their transplants and comparing them with the elective indicative as well as protocol transplant biopsies.

1. Tapia-Canelas C, Zometa R, López-Oliva MO, Jiménez C, Rivas B, Escuin F, et al. [Complications associated with renal graft biopsy in transplant patients]. Nefrologia. 2014;34(1):115-9.

METHOD:

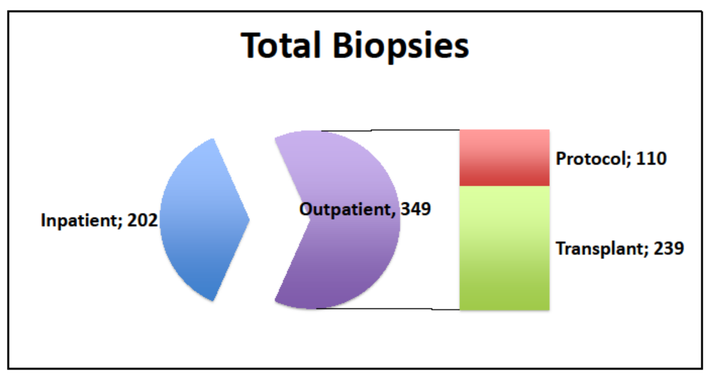
Data was collected retrospectively on 551 renal transplant biopsies using electronic hospital admission records, both inpatient and outpatient, over a period of 42 months from January 2010. Patients were deemed fit for biopsy by virtue of Hb > 8g/dl, platelet count > 100 and INR < 1.2. All outpatients had these measured less than a week prior to biopsy while inpatients had these tests within 24 hours of the procedure being carried out. Blood pressure pre-procedure was under 160/90 mmHg unless deemed clinically urgent.

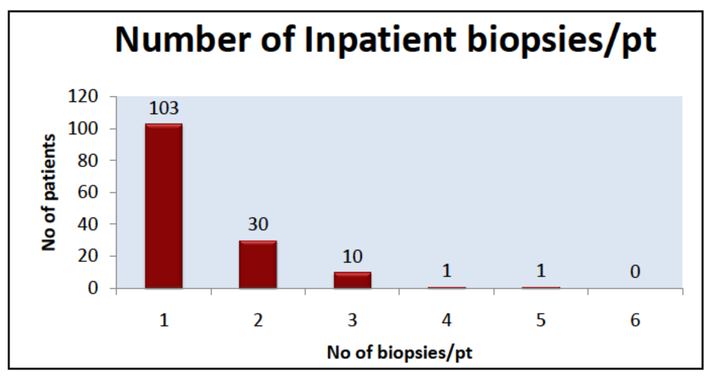
All biopsies were performed by a consultant nephrologist or a renal trainee under consultant supervision, under ultrasound guidance using biopsy gun with 16G or 18G needles. Inpatient biopsies were done bedside on the ward and outpatient procedures were done in day case unit. Patients were observed for 6 hours post biopsy for signs of any complication.

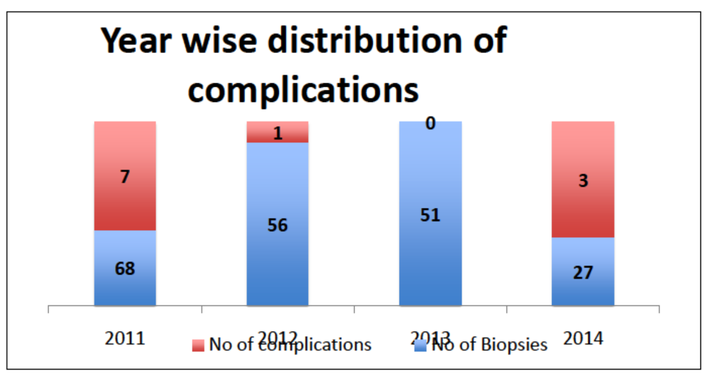
RESULTS:

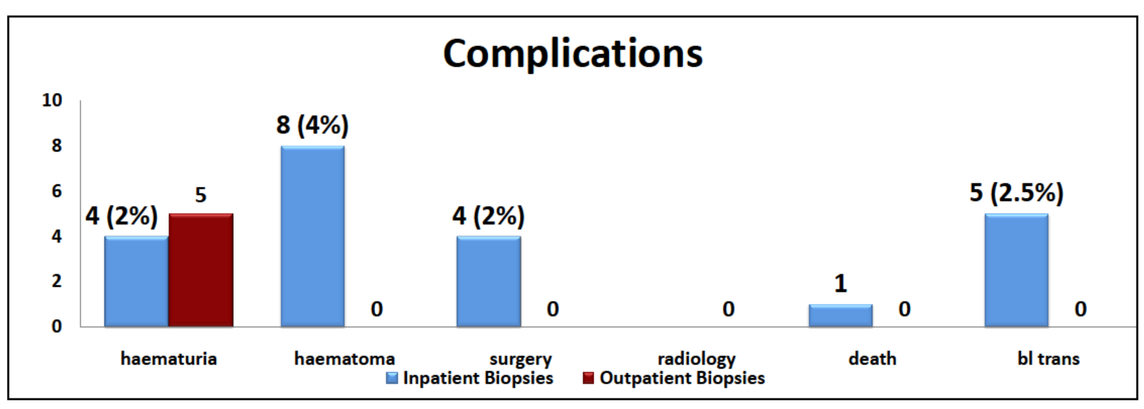
Inpatients: 11 of the 202 biopsies over 42 months resulted in some form of complication **(5.4%)**. Of the patients with haematoma, one had a pre-existing haematoma post surgery and the biopsy had to be undertaken through the collection. One patient developed significant DVT 24 hours post biopsy and had to be anti-coagulated. He developed a GI bleed and died before going to theatre of MI.

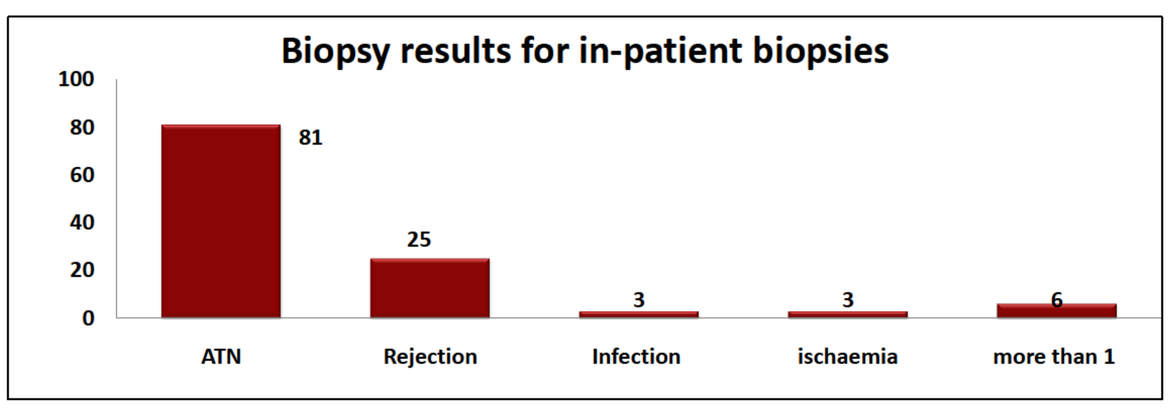
Outpatients: 5 of the 349 patients had a complication **(1.4%)**. Of these, 4 were episodes of visible haematuria needing admission for observation but no further intervention. One patient developed clot retention requiring urinary catheterisation for 24 hours. One patient had suspected nick to bowel and therefore was observed and discharged with antibiotics on the same day, with no complication on histology.











DISCUSSION:

Complications from inpatient renal transplant biopsies appeared to be significantly higher in comparison to outpatient procedures. Acute renal transplant recipients have a higher risk of bleeding due to altered blood pressure, reduced platelet function, recent anticoagulation/anti-platelet agent use, uraemia, local induration and perinephric collections that are all recognised factors seen post operatively. These factors are not usually seen in the outpatient setting. This information should be taken into account when weighing up the risk/benefit of a biopsy and counselling patients of risks. It is therefore important for institutions to evaluate their own complication rates for these patients to decide the risk vs. benefit of doing biopsies in the acute setting and to quote the relevant complication rates to patients when consenting them for procedures. These procedures need appropriate supervision and expertise as they offer a different complication profile.

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52 ERA 863--FP
M2) Renal transplantation. Clinical.
saurabh chaudhri
DOI: 10.3252/pso.eu.52era.2015
ePosters supported by F. Hoffmann- La Roche Ltd.
52nd ERA-EDTA CONGRESS London2015 UNITED KINGDOM MAY 28th
PosterSessionOnline.com