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P231 -Does size matter? Single central study looking at split function of live donor kidneys and their disparity in size.

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Introduction:

In potential live donors, if there is a size disparity between the two kidneys (>10%) then divided renal function (or split kidney function) can be measured by combining ⁵¹Cr-ethylenediamine tetraacetic acid (EDTA) and ^{99m} Tc-dimercaptosuccinic acid (DMSA) or using Mercaptuacetyltriglycine (MAG3) scan. Usually kidney with the lower function is donated. In our centre we were performing split function only if live donor is < 30 years of age or if there is a difference of > 1.5 cm in kidneys size.

Some centres in UK choose to perform split function testing routinely on all donors, although the evidence for doing so is limited (1). In our centre there were concerns raised by Nephrologists and transplant surgeons when some potential donors were found to have significantly different split function though Ultrasound/CT scan showed almost same size kidneys.

This triggered us to design a study to establish whether there is a discrepancy in the size and split function of the kidneys of living donors.

Method:

This is a retrospective study including 63 donors who were investigated in 2017 and the first half of 2018. The result of the investigations were pulled out using local data record (Isoft and Vital Data). The size of the kidneys of patient measured by either ultrasound scan or CT was noted and comparison was made with the split kidney function.

Discussion:

We divided the living donors into three different categories based on the following:

Category 1: Based on divided/split kidney function.

6 donors had a difference in differential function measured with MAG3 vs CT/US of at least 8 percentage points.

- a).None were <30 years of age.
- b).Only 2 had a size difference ≥ 1 cm.

Category 2: Based on kidney size.

2.8 donors had a size difference ≥ 1 cm

- a) 2 had a difference in differential function measured with MAG3 vs CT/US of at least 8 percentage points.

Category 3: Based on significantly lower differential function.

3 donors had one kidney with a differential function of less than 43%.

- a.None had a size difference ≥ 1 cm.

Result:

Patients can have significant variation in their split kidney function. CT/Ultrasound scans though helpful, are not the most reliable modality for their assessment when it comes to kidney donation. We propose that all potential living donors should be considered for MAG3 or 99mTc-DMSA to guide us better in deciding which kidney is suitable for donation.