



<b>SS01</b>	<b>Scientific Session 1</b>
<b>09:20-10:50</b>	<b>GBR 102</b>
<b>Chairperson(s):</b> Young Sup Shim (Gachon University Gil Medical Center, Korea) Jung Jae Park (Chungnam National University Hospital, Korea)	

## 09:30-09:40 (SS01-P2)

### A Comparative Study Using Standard and Small Endorectal Transducers for the Prostate Ultrasonography

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**PURPOSE:** Evaluation of pain and image quality in subjects using two different ultrasound transducers.

**MATERIALS AND METHODS:** Fifty healthy males over 30 were prospectively enrolled in this study. Applicants were asked about their previous medical history such as anal diseases before the examination. All the ultrasound was performed by a V8 machine (Samsung Medison, Korea) with EA2-11 (conventional) and miniER7 (small-caliber) endorectal transducers.

Of the total 50 patients, ultrasound using a conventional transducer is performed first for half of the patients, followed by a small transducer, and the other half (25 patients) are performed in reverse order to eliminate bias in order. Ultrasonography, in the same way as standard practice, measured the volume of the entire prostate and the transition zone, acquired cross-sectional and sagittal images, and performed a color Doppler study. After each examination, the pain score was asked using a 10-point numeric rating scale (NRS). In image evaluation, a radiologist performs a qualitative analysis on a 5-point scale on the overall image quality, compares the average of the prostate and transitional zone volumes measured by each method, and evaluates how much the volume measured by the two methods differs by performing a Bland-Altman plot. If there is a focal lesion, how well it is visible for this lesion is evaluated on a 5-point scale.

**RESULTS:** Mean NRS from conventional and small transducers were 4.74 (1-8) and 2.7 (1-5), respectively ( $p < 0.05$ ). Mean ultrasound image qualities from the two transducers were not statistically different (4.78 and 4.74,  $p > 0.05$ ). Only two out of fifty volume measurements differed by more than two standard deviations. No focal lesion is demonstrated in the whole patient group.

**CONCLUSION:** The pain was significantly decreased using a small endorectal probe, without reducing image quality.