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Title (type in
CAPITAL
LETTERS)**USEFULNESS RESISTIVE INDEX AND PRESUMED CIRCLE AREA
RATIO IN THE EVALUATION OF BENIGN PROSTATIC
HYPERPLASIA**

Aims of Study Prostate volume has been known to be poorly correlated with various clinical parameters used to assess the severity of benign prostatic hyperplasia (BPH), including symptom score, peak flow rate (Qmax). However, the ratio of transition zone (TZ) volume might served as a useful proxy for evaluating worsening obstruction. This study was designed if transrectal ultrasonographic measurement of RI (resistive index), PCAR (presumed circle area ratio) are correlated well with volume (total prostate volume, TZV, TZ index) or other clinical (peak flow rate, prostate symptom score) parameters.

Methods A total of 81 men aged 50 to 76 years with moderate symptom of BPH (IPSS ≥ 8) underwent measurement of RI, PCAR, total prostate and TZ volume at the time of transrectal ultrasonography. All men were requested to undergo uroflowmetry and completed the IPSS.

Results RI correlated well with TZ index ($r=0.335$, $p<0.01$), TZ ($r=0.311$, $p<0.01$), IPSS ($r=0.307$, $p<0.05$), and age ($r=0.300$, $p<0.05$). PCAR also correlated with total prostate volume ($r=0.312$, $p<0.01$), IPSS ($r=0.302$, $p<0.05$) and TZ volume ($r=0.258$, $p<0.05$). There were no significant interrelationships between RI and PCAR.

	PCAR	TV	TZV	TZI	Qmax	IPSS	Age
RI	$r = 0.053$	$r = 0.227$	$r = 0.311^{**}$	$r = 0.335^{**}$	$r = -0.266^*$	$r = 0.307^*$	$r = 0.300^*$
PCAR		$r = 0.312^{**}$	$r = 0.258^*$	$r = 0.213$	$r = -0.146$	$r = 0.302^*$	$r = 0.179$
TV			$r = 0.912^{***}$	$r = 0.712^{***}$	$r = -0.252^*$	$r = 0.289^*$	$r = 0.314^{**}$
TZV				$r = 0.905^{***}$	$r = -0.225$	$r = 0.271^*$	$r = 0.325^{**}$
TZI					$r = -0.188$	$r = 0.132$	$r = 0.293^{**}$
Qmax						$r = 0.295^*$	$r = -0.330^{**}$
IPSS							$r = 0.120$

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

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Author(s):

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Conclusions IPSS was highly related to RI and PCAR. High correlation was noted between RI and TZ index, followed by that between RI and TZ volume. PCAR was only related to total prostate volume. These findings provide further evidence that RI is more useful than PCAR as a ultrasonographic measurement in assessing the volume of BPH. Study is in progress for determining the value of RI for predicting bladder outlet obstruction.