Answering reviewers:

Dear reviewers:

First of all, thank you for your first decision, consideration for acceptance and suggestion of revision for our research article. We considered that your suggestions will take very important role to our research.

According to reviewer`s (NO 03368130) suggestions, we adjusted the necessary part in the abstract, method, and discussion. All detailed technical parameters about the acquisition of the Doppler signal including PRF, PSV, and RI were added.

(To achieve maximum sensitivity, Doppler settings were set at lower frequency and filter, and the artifact in the image was removed. Starting from the highest level (4–6 cm above the anorectal junction) and continuing to the anal verge (1 cm below the line of the internal sphincter muscle), the transanal probe was slowly pulled distally. Doppler window was placed at haemorrhoidal artery, change the baseline and PRF according to blood flow velocity, and get continuous blood flow image, mesurement of PSV and RI. Each artery diameter was measured three times, then mean value was calculated. Parameter of power Doppler setting: frequency, 6.1 MHz; power Doppler gain, 40 dB; dynamic power Doppler setting parameter：range, 20 dB; edge, 1; time smooth, 7; special smooth, 2; color map, 5; fil- ter, 5; pulse repetition frequency, 21.5 kHz; scale, 3.8m/s.)

All repetitions were deleted or properly adjusted or deleted. The reference (Aigner F, Bodner G, Gruber H, et al. The vascular nature of hemorrhoids. J Gastrointest Surg. 2006;10(7):1044-50. Miyamoto H, Asanoma M, Miyamoto H, et al. Visualization and hypervascularization of the haemorrhoidal plexus in vivo using power Doppler imaging transanal ultrasonography and three-dimensional power Doppler angiography. Colorectal Dis, 2013;15: 686–691) were included and discussed in the text.

(Ten years before, Aigner F et al [41] concluded that increased caliber and arterial blood flow of the terminal branches of the superior rectal artery are correlated with the appearance of hemorrhoids. They suggested that the hypervascularization of the anorectum contributes to the growth of hemorrhoids rather than being a consequence of hemorrhoids. Their observations confirmed that Morphological changes are clearly detectable with the use of transperineal color Doppler ultrasound in patients with symptomatic hemorrhoids. Aigner F believed that Transperineal color Doppler ultrasound is an appropriate method to assess these findings in patients with hemorrhoids. Four years before, Miyamoto H et al [42] reported encouraging result Using power Doppler imaging (PDI) transanal ultrasound and three-dimensional power Dopplerangiography (3D-PDA) to visualize the haemorrhoidal plexus and the course of the haemorrhoidal artery in vivo. They found that Blood flow significantly increased following advancement of the grade of haemorrhoid, and they also concluded that the distribution of haemorrhoidal arteries varies widely in both the number and the position. In their research, they demonstrated that the median number of haemorrhoidal arteries was five (range, 3–9) and that they were found in various positions, being located, in 62.1% of patients, at 1 o'clock but more commonly at the 3, 7 and 11 o'clock positions.)

Secondly, according to reviewer`s suggetions and overal discussions by all research group members, mosaic pattern was believed as surgical indication parameter, and not early diagnostic tool. The important reason was that the mosaic pattern sign is not really sensitive for stage I and II, so we can not say that mosaic pattern sign could be relevant for early diagnosis. Therefore, we deleted the sentence of "sonography may be useful for the early detection of hemorrhoids and early intervention" in the whole text including the abstract, method, discussion, science news, comments, and other parts.

Dear Editors and reviewers:

After discussion about your valuable directions and suggestions, we have

informed necessary information to our research. Therefore, we thank you very much for your peer review process and your kind support. In the same time, thank you again for your first decision, consideration for acceptance and necessary suggestion of revision to our research. We will perform additional part of the study to obtain more evidence of sonographic or other related imaging studies and therapuetic findings in the future research work.

Sinsierly yours,

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