Results

1. Group DMA was compared with control group and was significant difference in RPP, Ea, SVRI and SW ($p<0.01$). There were significant differences in SL_{BA}, SL_{PM} and SL_{AP} among DMN, DMA and control groups ($p<0.01$).
2. SL_{BA}, SL_{PM} and SL_{AP} were correlated positively with Ea and SVRI ($p<0.01$). The longitudinal strain had reverse correlation with SW and RPP ($p<0.01$), while positively with EF and fractional shortening (FS) ($p<0.01$).
3. DMN compared with control group, the ROC analysis showed that the under-ROC curve area of SL_{BA}, SL_{PM} and SL_{AP} were 0.857, 0.862 and 0.832 respectively, but there was no significant difference among them ($p>0.05$). On the other hand, the ROC analysis between DMA and DMN group indicated that the under-ROC curve area of SL_{BA}, SL_{PM} and SL_{AP} were 0.720, 0.782 and 0.942, moreover $SL_{AP}>SL_{PM}>SL_{BA}$.

Conclusions To patients with DM, ventricular-arterial coupling and SL decreased in synchronism. Ventricular-arterial uncoupling, SL would be asynchronous, power decrease, and increase oxygen.

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RE-EVALUATION OF TWO-DIMENSIONAL STRAIN IN THE PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Objectives Based on the ventricular-arterial coupling, the longitudinal strain (LS) of myocardium in the patients with type 2 diabetes mellitus (DM) were discussed in detail.

Methods Eighty patients with DM were divided into two groups, normal left ventricular ejection fraction (EF) group (DMN, EF≥50%, n=40) and abnormal EF group (DMA, EF <50 %, n=40). At the same time, 42 healthy volunteers were selected as the control. The Stroke works (SW), rate-pressure product (RPP), systemic vascular resistance index (SVRI) and arterial elastance index (Ea) were measured respectively. Longitudinal strain (SL) of myocardial segment including base (SL_{BA}), papillary muscle (SL_{PM}) and apex (SL_{AP}) were analysed by two-dimensional speckle tracking imaging and the mean values of 6 segments at the same level were regarded strain value at this level.