DIABETIC GALLBLADDER, DYSPESPIA AND METABOLIC EFFECTS
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The purpose of the study was to determine the functional state of the gallbladder (GB) in patients with type 2 diabetes mellitus (T2DM) in combination with metabolic syndrome (MS).

Design:
- 40 patients with T2DM and obesity of I-II degree
- 20 healthy volunteers in control group

Methods:
- Ultrasonography, dynamic echocholecystography and duodenal intubation
- The motor function of GB was assessed by:
  - emptying coefficient: (Kempt = (Vc)/V0 x 100%)
  - index of contractility: (IC = Vmax/Vmin)
- lipid blood profile
- glycemia, HbAlc

Results: The following signs of GB hypotension were revealed in examined patients:

GB initial volume
80.2 ± 1.1 cm³
(control group = 25.9 ± 1.9 cm³) p <0.05

GB hypokinesia: reduced Kempt of GB
- on 30th minute of investigation (0.8 ± 0.1 vs 49.2 ± 2.5 (P<0.05));
- on 45th minute (7.8 ± 0.3 vs 61.2 ± 2.7 (P<0.05));
- on 60th minute (17.2 ± 0.4 vs 67.4 ± 2.4 (p<0.05))

The reduction of GB propulsive function was confirmed by:

GB final volume
66.3 ± 0.9 cm³
vs 8.1 ± 0.8 cm³ (P <0.05)

GB latent period duration
28.2 ± 0.2 min vs 12.6 ± 0.5 min
(P <0.05)

IC
1.21 ± 0.1 vs 3.1 ± 0.3
(P<0.05)

Patients with T2DM and MS were also characterized by increased content of TC, TG and LDL in comparison to control data and had a “glycemic swings” phenomenon.

Conclusion: patients with T2DM and MS show signs of gallbladder dyskinesia with dilatation and reduction of gallbladder contractile function that are associated with disorders of carbohydrate and lipid balance.

Declaration of interest: There are no relevant conflicts of interest to disclose.