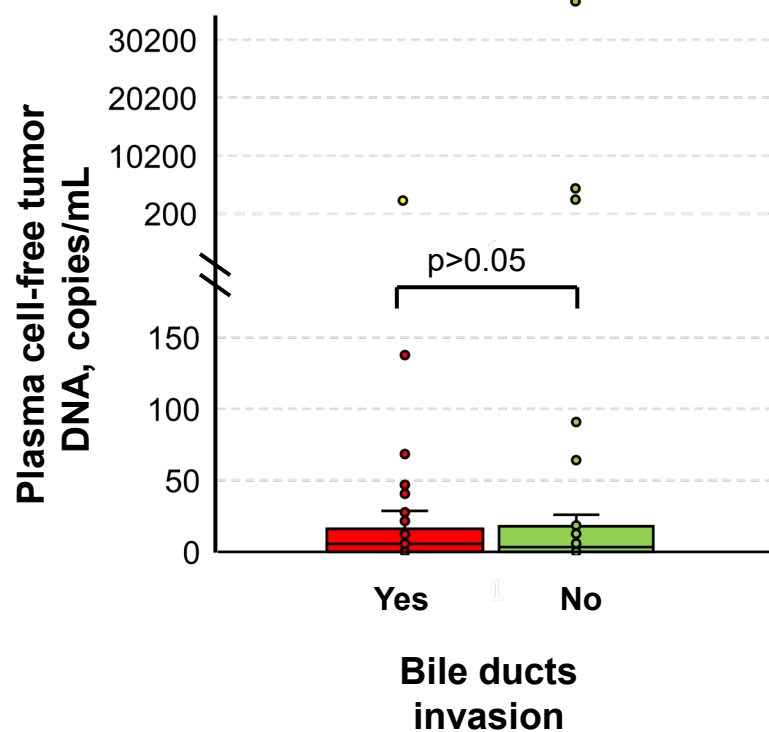
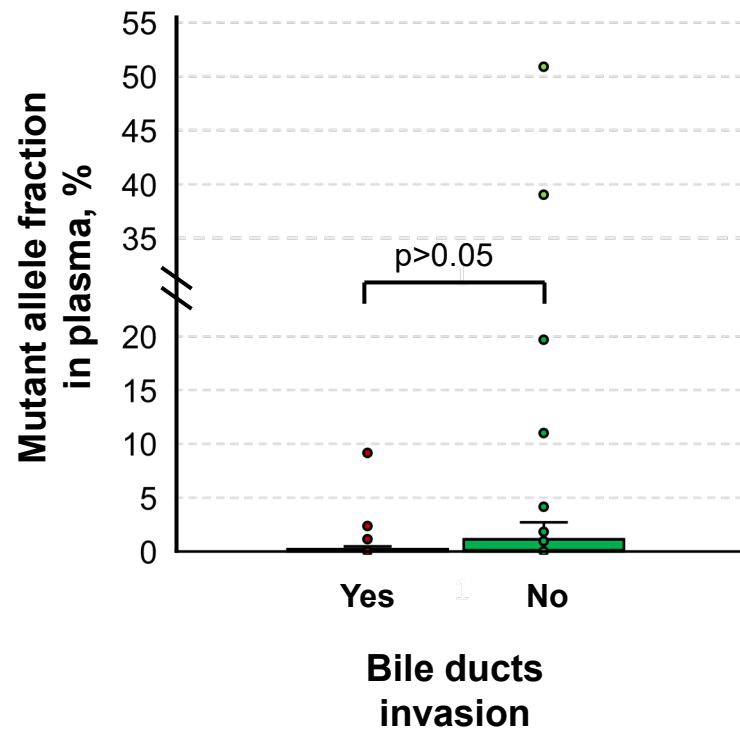
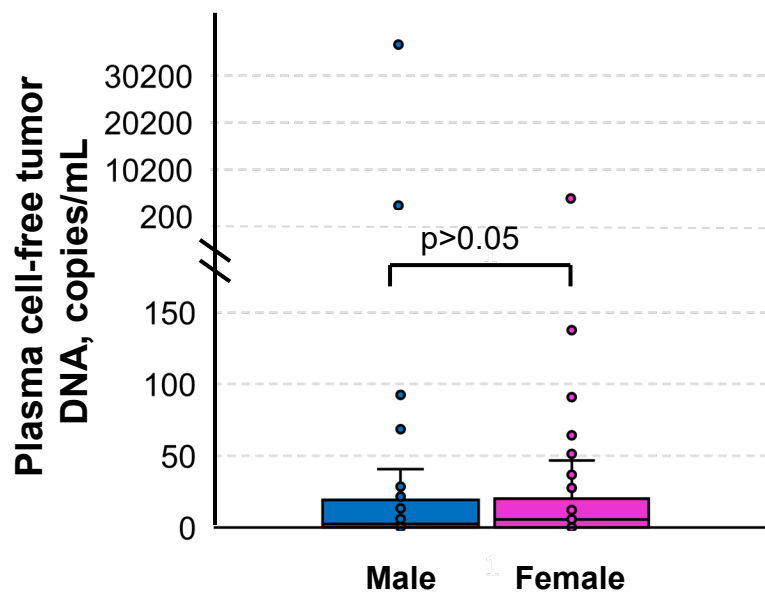
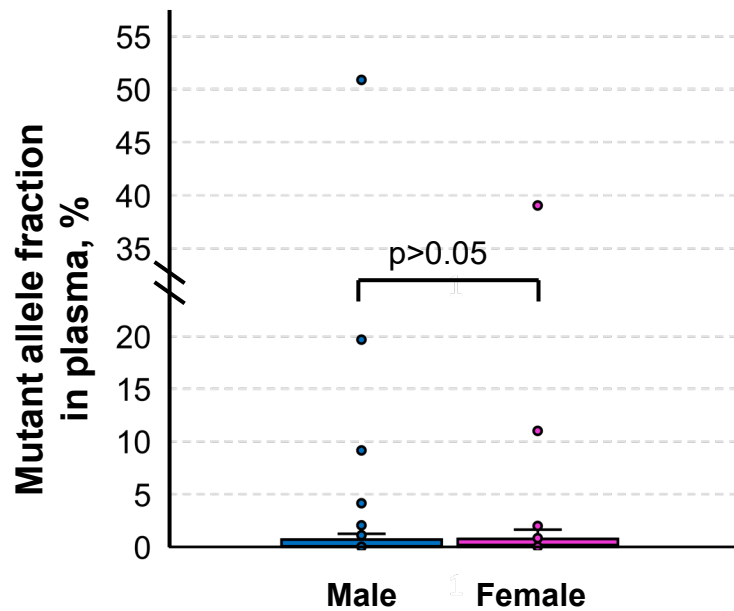
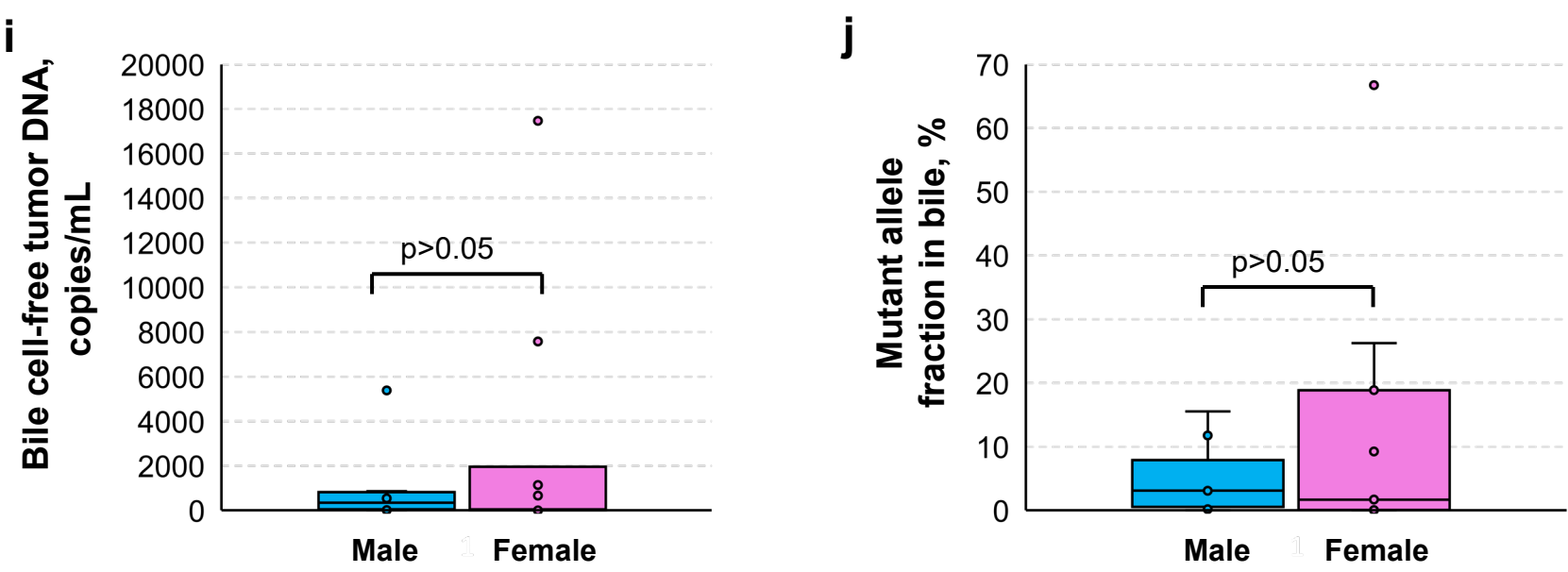


**e****f****g****h**



**Figure S3.** Comparison of cell-free tumor DNA analysis results in patients with various localization characteristics of the tumor and sex. **(a)** Box plot for data presented as copies per 1 mL of plasma (localization of the tumor in pancreas). **(b)** Box plot for data presented as mutant allele fraction in plasma (localization of the tumor in pancreas). **(c)** Box plot for data presented as copies per 1 mL of plasma (contact of the tumor with arteries/veins). **(d)** Box plot for data presented as mutant allele fraction in plasma (contact of the tumor with arteries/veins). **(e)** Box plot for data presented as copies per 1 mL of plasma (invasion of the tumor into bile ducts). **(f)** Box plot for data presented as mutant allele fraction in plasma (invasion of the tumor into bile ducts). **(g)** Box plot for data presented as copies per 1 mL of plasma (sex). **(h)** Box plot for data presented as mutant allele fraction in plasma (sex). **(i)** Box plot for data presented as copies per 1 mL of bile (sex). **(j)** Box plot for data presented as mutant allele fraction in bile (sex).

Comparison of bile cell-free tumor DNA analysis results in patients with various localization characteristics of the tumor was not visualized due to certain characteristics being predominant in patients who donated bile (localization of the tumor in the head of pancreas, positivity for contact with arteries/veins and invasion into bile ducts).

Cell-free tumor DNA was detected using digital droplet polymerase chain reaction on a QX200 AutoDG ddPCR System (Bio-Rad Laboratories, Inc., Hercules, CA, USA) based on presence of common *KRAS* mutations in G12/G13, Q61 hotspots. Determination of localization characteristics of the tumor was carried out using computed tomography, magnetic resonance imaging, and positron emission tomography/computed tomography with 18FDG according to medical indications.