



**ESM Figure 2:** Illustration of the basic steps in measuring FD of the pancreas using standard box counting method

A grid of varied box size (scale) between 0- 45% of the image size was displayed on the binarized image and the number of boxes (n) that contain non-zero pixels was counted for each grid (g). The Ln of box count (n) was plotted against the Ln of box size ( $\epsilon$ ), and the slope of the regression line was presented as the final FD value. Only 5 iterations were presented in this illustrative example, but in reality the number of iterations is higher depending on the scale which is decided by the software based on the image size. In this example, grids were placed randomly in one position on the image. However, in practice each grid is placed at 12 different locations and rotated 10 times at  $36^\circ$  angle, and the average values for 10 rotations / 12 positions are calculated.