ROQED

PATHOLOGY 3D

User manual

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1. Introduction

PATHOLOGY 3D is a breakthrough application designed to study anatomic pathology based on the state-of-the-art technologies.

PATHOLOGY 3D enables simulation of 134 different diseases/syndromes for 19 target organs.

The disease/syndrome is described by the 4 level of simulation of the target organ: manifestation, complication, outcomes and histology.

PATHOLOGY 3D supports two modes: training and testing. Training mode enables user to examine a target affected organ with specified disease/syndrome. Testing mode enables simulation of organ pathology based on selected disease/syndrome.

2. Installation

- Run PATHOLOGY3D_installer.exe file;
- In some seconds you will find installation window. Click Install button to proceed with the installation and follow the wizard guidelines;
- PATHOLOGY3D shortcut will be placed on your desktop after the application is installed. Double click the icon to launch the application.

3. Activation

- PATHOLOGY 3D requires a valid license key to run;
- PATHOLOGY 3D required Internet connection for activation. After first run the application needs internet connection in order to verify the key validity.
- After the application is run license key activation appears (Fig. 1). Please enter license key into text field when prompted;
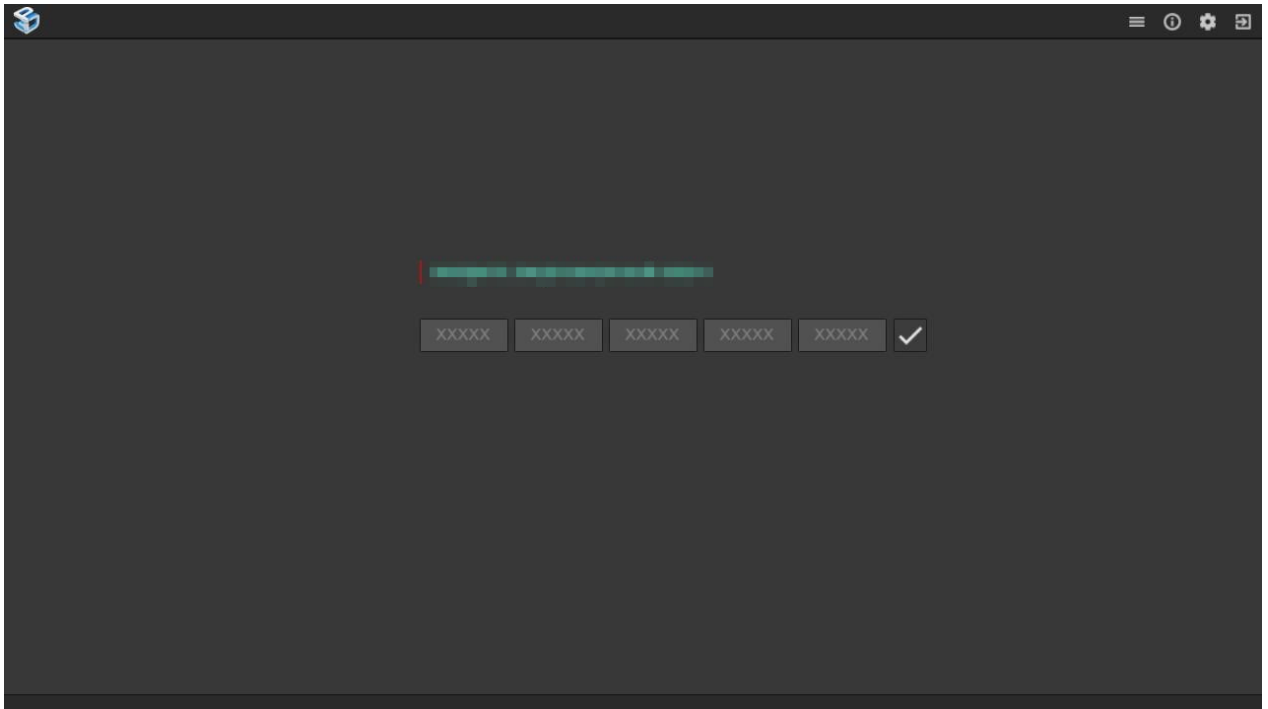
Fig. 1 - License key activation window

4. Application modes

In main menu you may choose application mode: training or testing (Fig. 2);
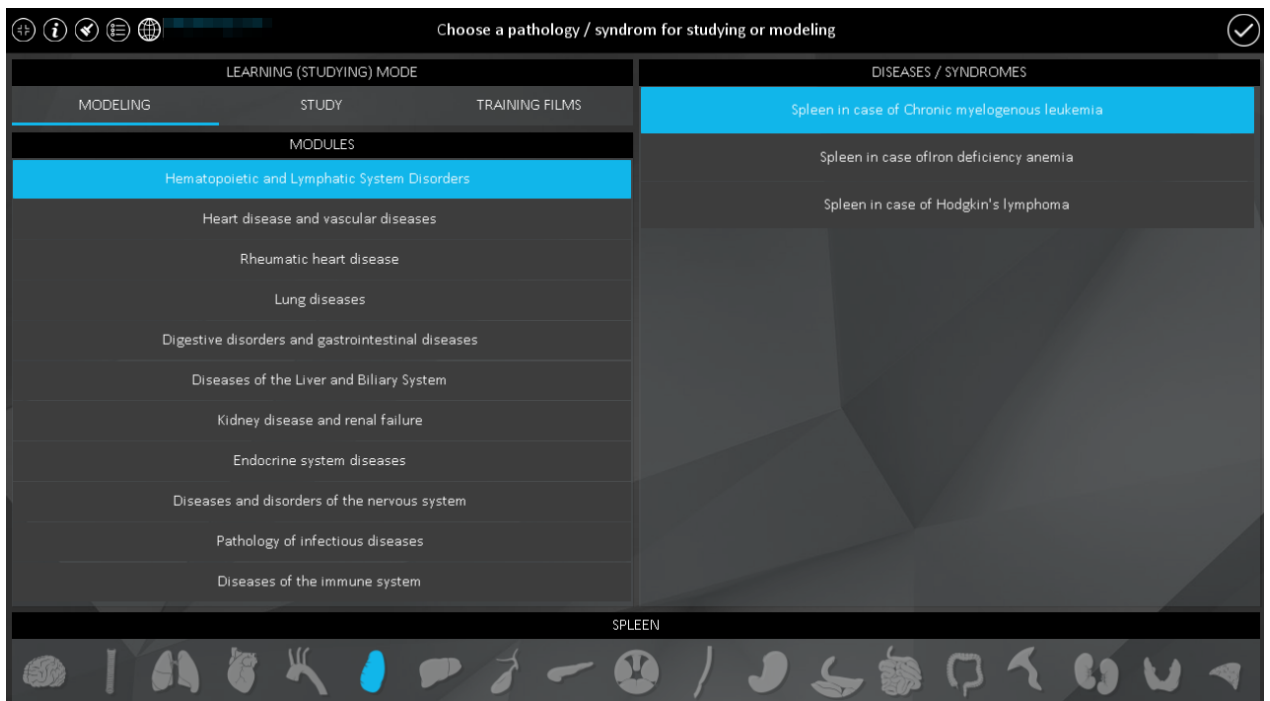

Fig. 2 - Application main menu

4.1. Training mode

Training mode enables to learn the disease/syndrome, i.e. to see a 3D model of an abnormal organ with details of pathology manifestations, complications, outcomes as well as real images of pathology and histologic pictures.

4.2. Testing mode

With testing mode users may check their knowledge. In that mode based on the selected disease/syndrome the user needs to simulate an organ pathology by changing the parameters of effects, complications, clinical outcomes and choose between four given options the correct histologic image.

After testing is over a table with user responses and detailed description is shown; the user responses are then matched to the database, and the user is given the score (Fig. 3).

PARAMETER	CORRECT ANSWER	USER'S ANSWER	POINT
Transmural myocardial infarction			
Number of points: 7/18 (39%). Modeling time: 0 Minutes 51 Seconds.			
MANIFESTATIONS			
Necrosis	Solitary	Solitary	1
	Flabby	Flabby	1
	Irregular shape	Irregular shape	1
	Yellowish-white color	Yellowish-white color	1
Coronary arteries (Arteries of the base of the brain)	Atherosclerosis (Fissured, ulcerated, hemorrhagic, thrombotic lesion)	Parameter was not chosen	0
	Occlusive thrombus(luminal thrombosis)	Parameter was not chosen	0
COMPLICATIONS			
	Pulmonary thromboembolism	Parameter was not chosen	0
	Mural thrombus	Mural thrombus	1
	Ventricular septal rupture	Parameter was not chosen	0
	Pericardial tamponade/cardiac tamponade	Parameter was not chosen	0
	Fibrinous pericarditis	Parameter was not chosen	0
	Acute heart failure and Chronic Heart Failure	Parameter was not chosen	0
	Papillary muscle rupture	Parameter was not chosen	0
	Cardiogenic shock	Parameter was not chosen	0
	Arrhythmia	Arrhythmia	1

Fig. 3 - User answer table

5. Using the application

• After you select operation mode the following window appears - Fig. 4. Here you can select disease /syndrome. On the left part you will see the modules that include disease/syndrome groups as per the module nature. On the left window part disease/syndromes that correspond to the selected module are shown.
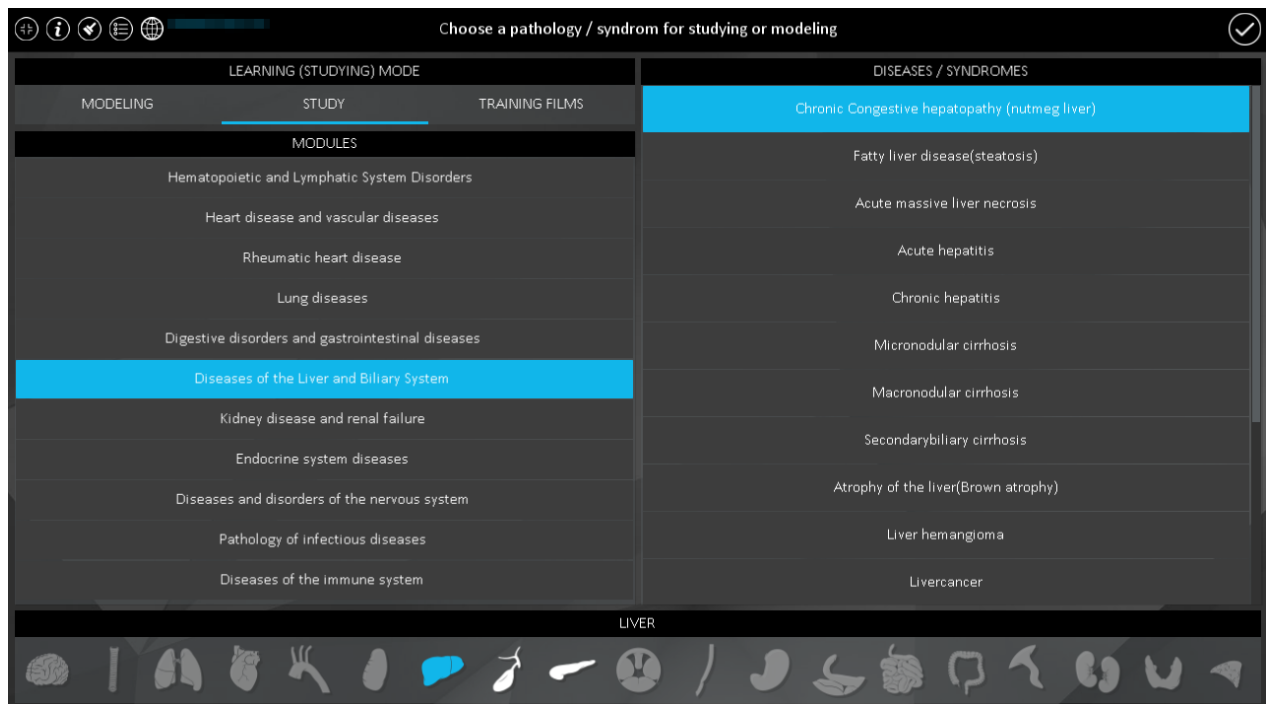

Fig. 4 - Menu of disease/syndrome selection menu

• When selecting module or disease/syndrome its button is highlighted red;

• When selecting disease/syndrome in the upper window part (Fig. 4) the text field is to enter the disease/syndrome name;

• Above module and disease/syndrome tabs a list of target organs is located. When a module is selected the organs it comprises are highlighted white and all the rest organs are greyed out. Then the target organ for the disease/syndrome selected are highlighted green;

• Then after the disease is selected press Apply button.

• After that disease/syndrome simulation window appears (Fig. 6).
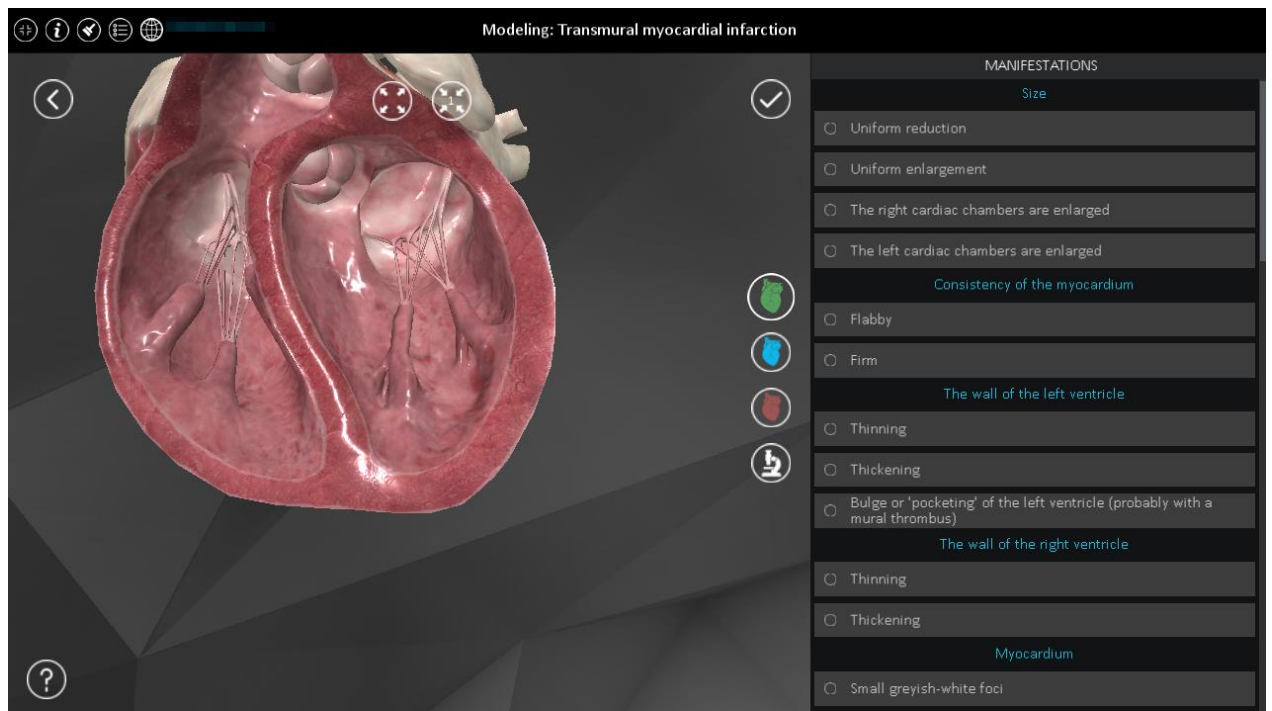
Fig. 6 - Initial position: the window for 3D model of organs

• Fig. 7 shows information purpose text field with the disease under consideration. In the lower part of the window organ selection menu is located. The right part has a parameter panel.
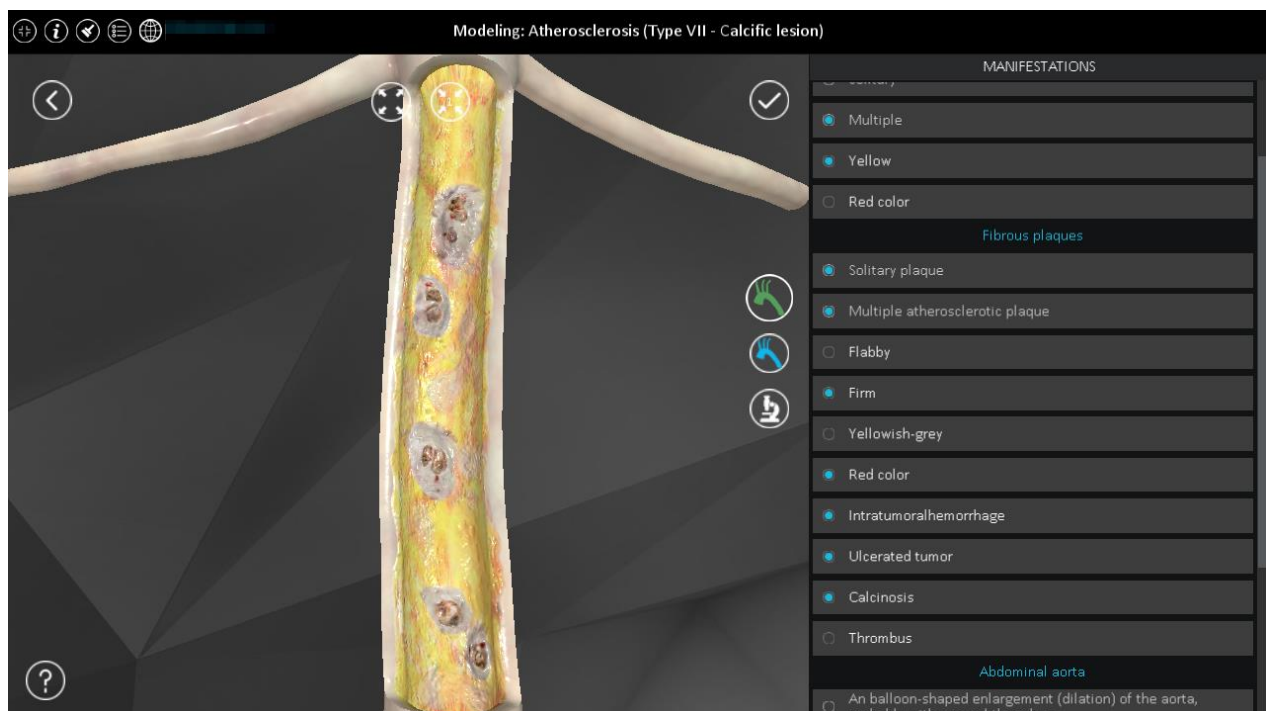

Fig. 7 - An example of pathology in training mode

- The right tab of Fig. 7 shows manifestations thus is also shows parameters of the manifestations. For viewing details of complications and outcomes click the appropriate buttons.

- When selecting parameters following the manifestations the target organ will change its state with respect to the selected parameter. Thus, by selecting some parameters the view of the target organ changes and its pathology is simulated;

- For viewing real images of the disease/syndrome under consideration (Fig. 8) click 📷 button.
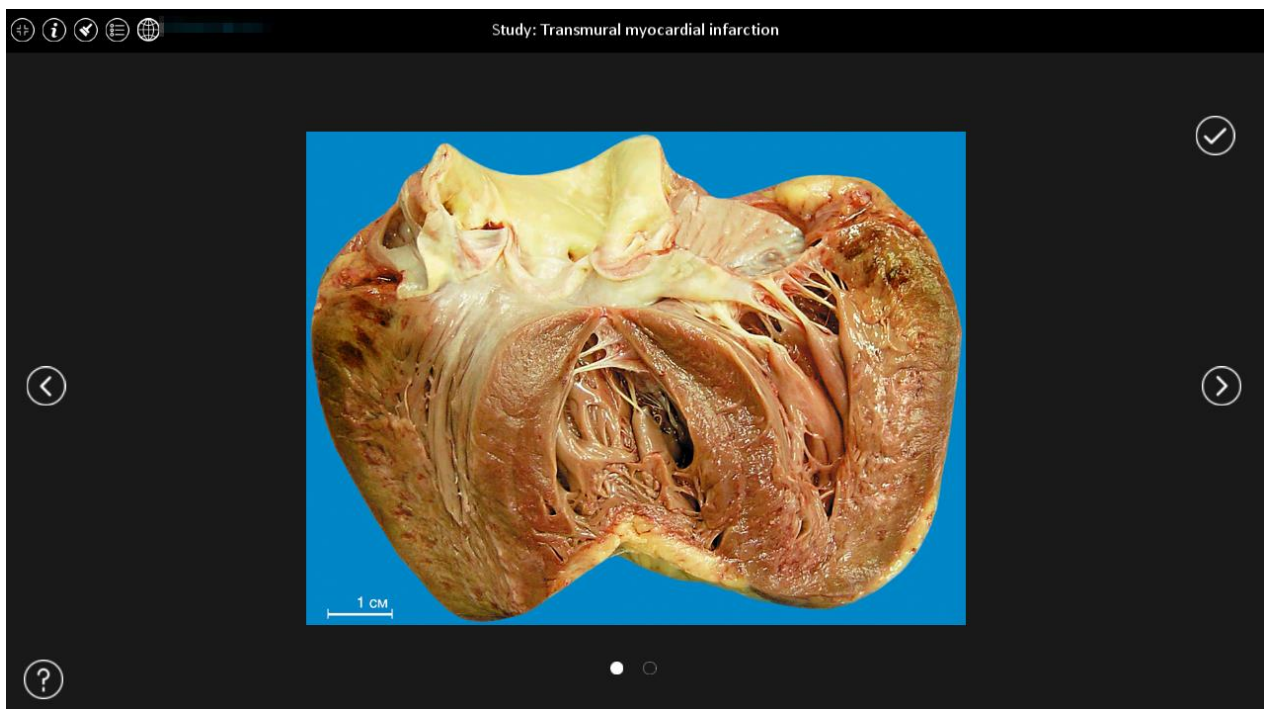
Fig. 8 - Real image of disease/syndrome under consideration

- For viewing menu of histologic images selection (Fig. 9) click 🔬 button
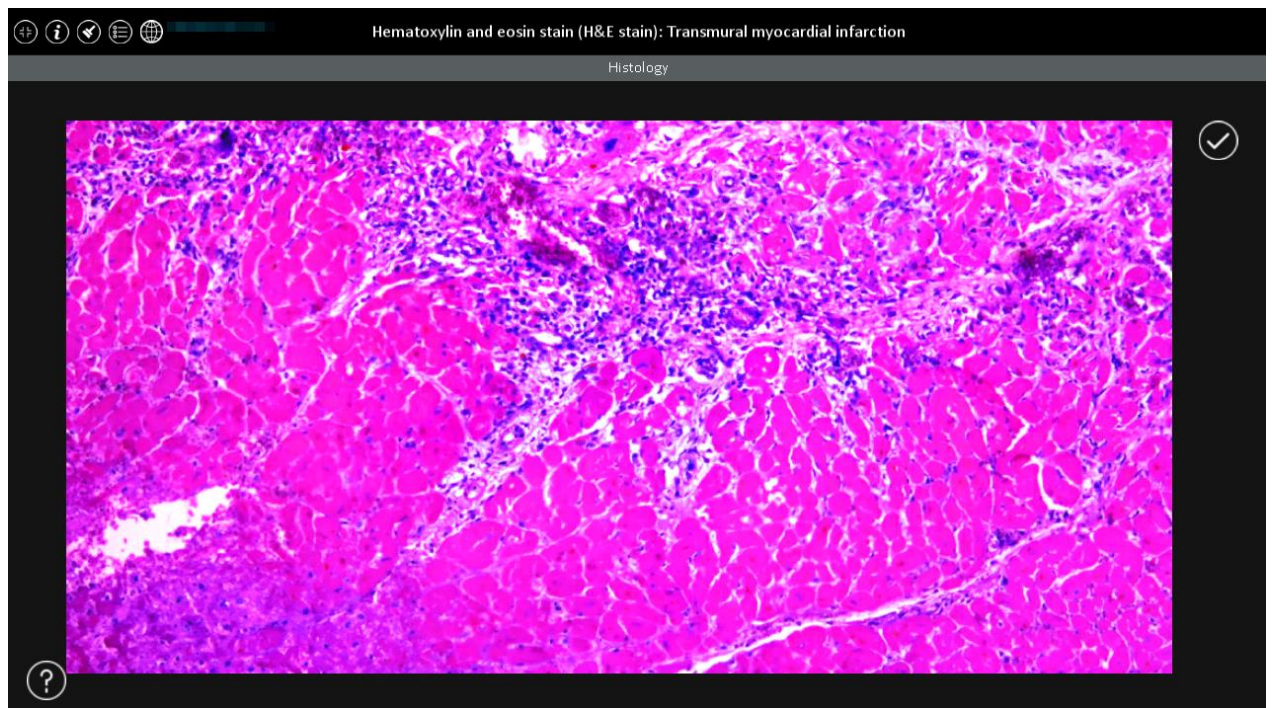
Fig. 9 - Menu of histologic images selection

6. Controls

In 3D view window for work with organs you will see different controls (Fig. 10):

- Main view - returns view to default;
- Show organs - all organs are displayed;
- Transparency - makes all the organs transparent except the selected one;
- Hide - hides all the organs transparent except the selected one;
- On surface view - the views from the selected organ surface are shown turn by turn;
- Cross-section view - shows turn by turn the cross section views of the selected organ;
- You can rotate the view around the organ with pressed mouse right button;
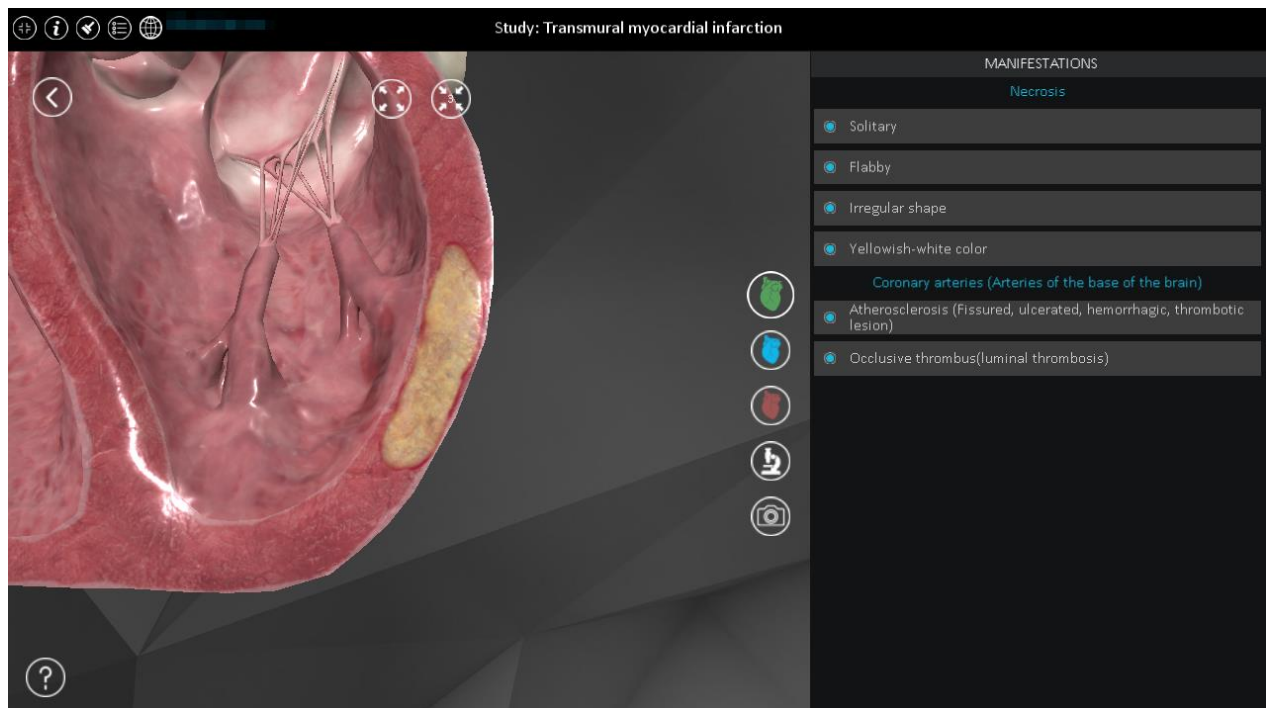- You can zoom in/out by mouse wheel.

Fig. 10 - Controls

7. Settings

Pressing button opens settings tab. Settings menu has the following sections:
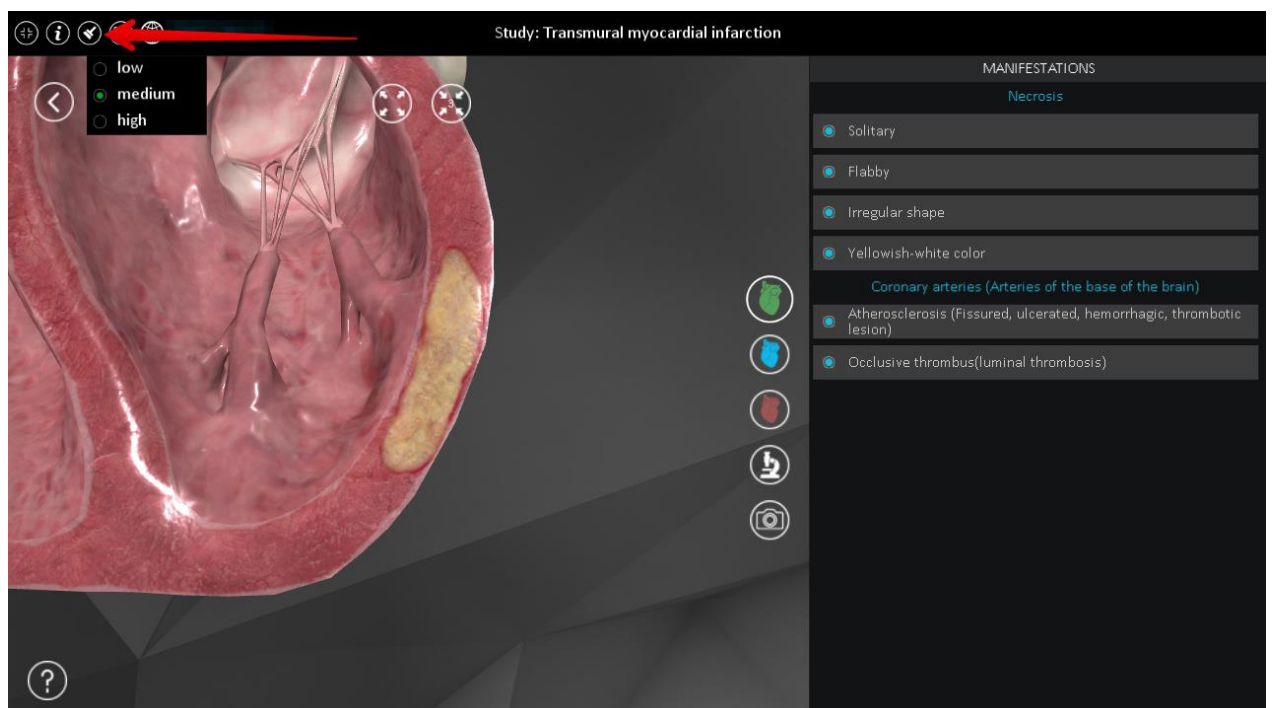
7.1. Main settings

Fig. 11 - Main settings tab

- Graphics quality - video quality of organ 3D models; Display resolution - selection of application resolution to best fit you display resolution;

7.2. Proxy server settings

- HTTP-proxy - enter here the IP-address of your proxy server;
- Port - here you can specify proxy server port if proxy is used;
- Login - if authorization is required that field is used for login entry;
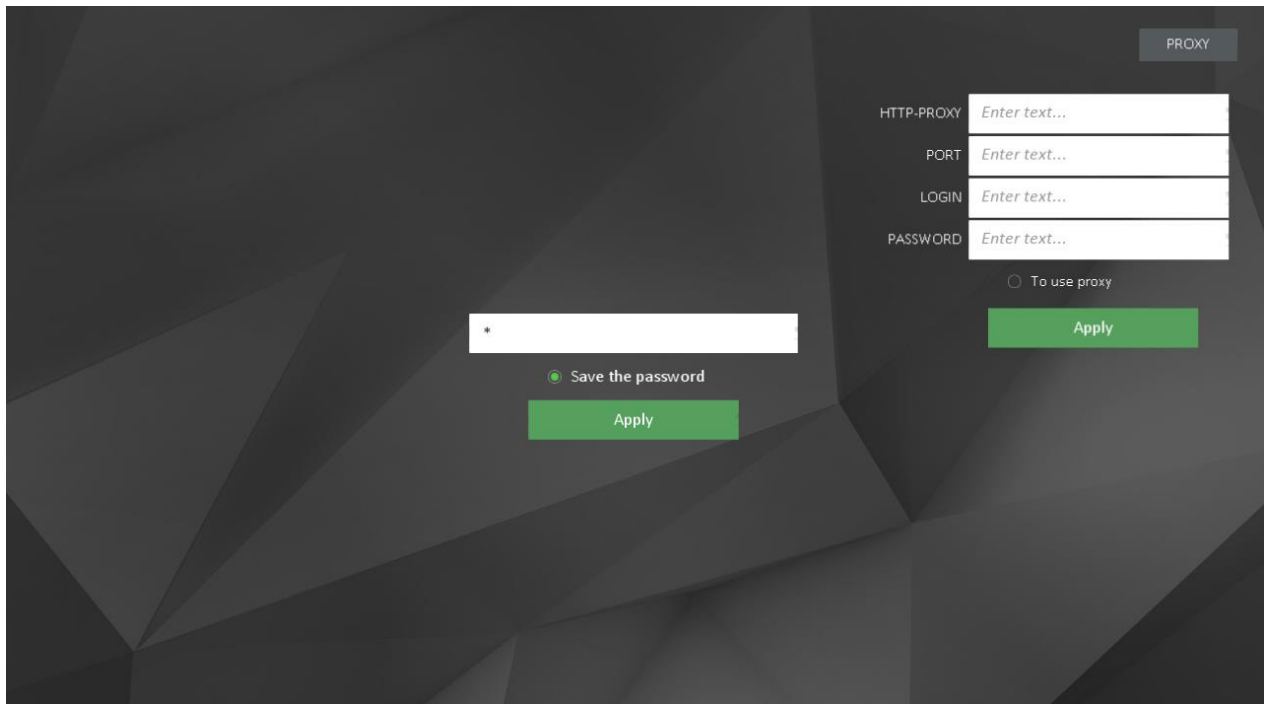- Password - if authorization is required that field is used for password entry;

Fig. 12 - Proxy-server settings window