

# *Anatomy of Atrial Septal Defect and 3D Imaging*

*Toshio Nakanishi*

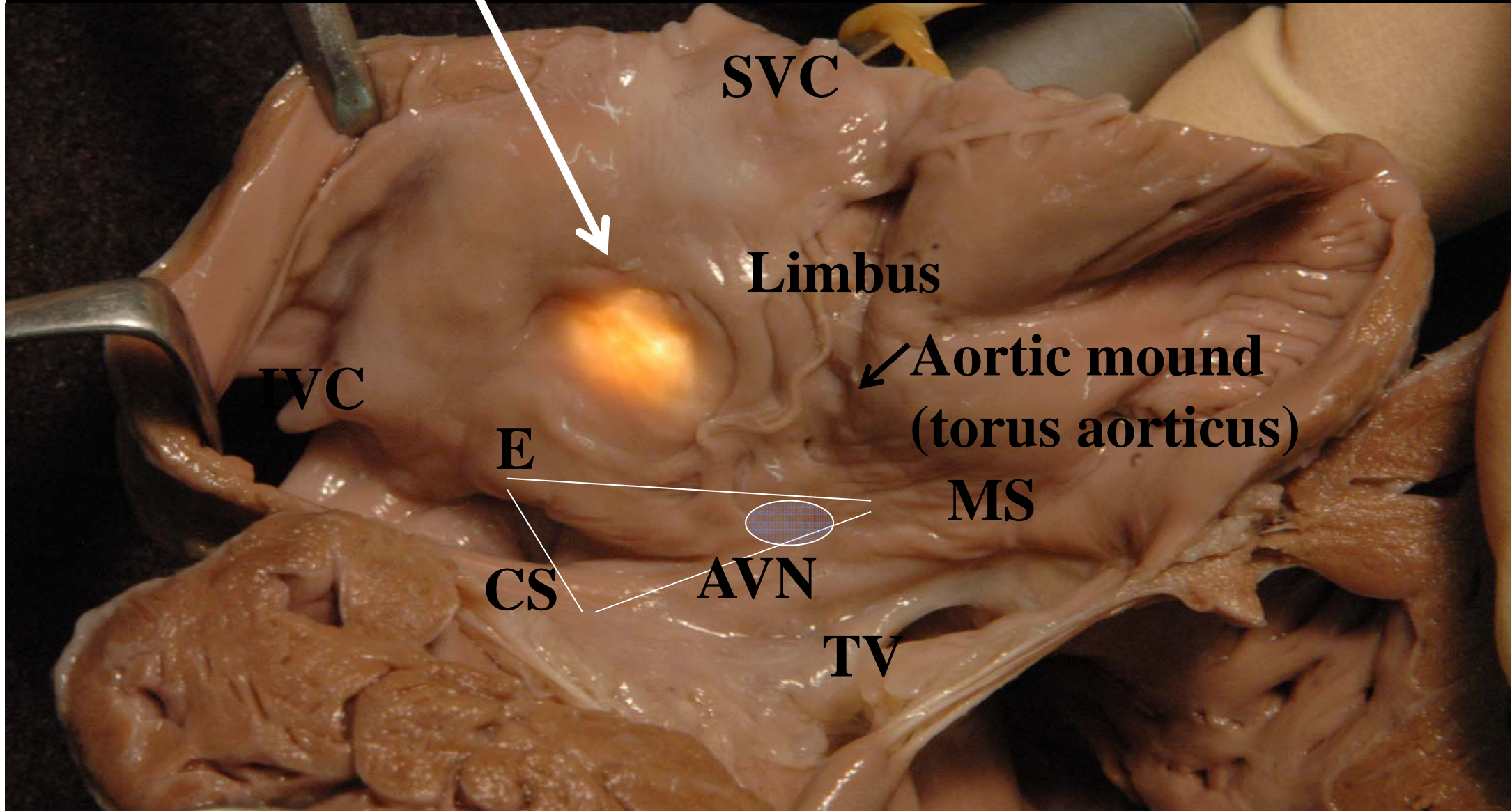
*Pediatric Cardiology,*

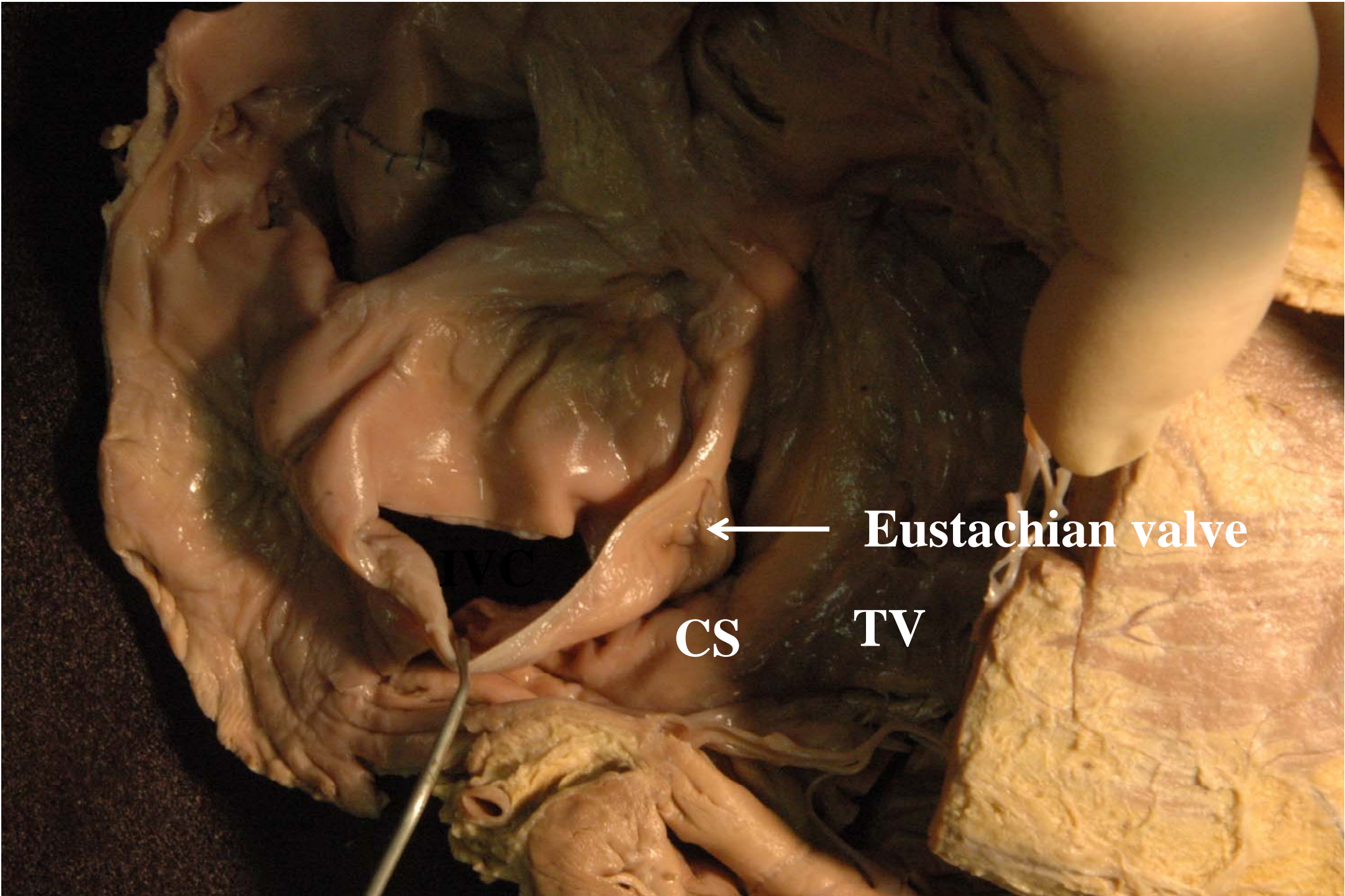
*Tokyo Women's Medical University*



Dr. Amplatz 2004

# Fossa ovalis



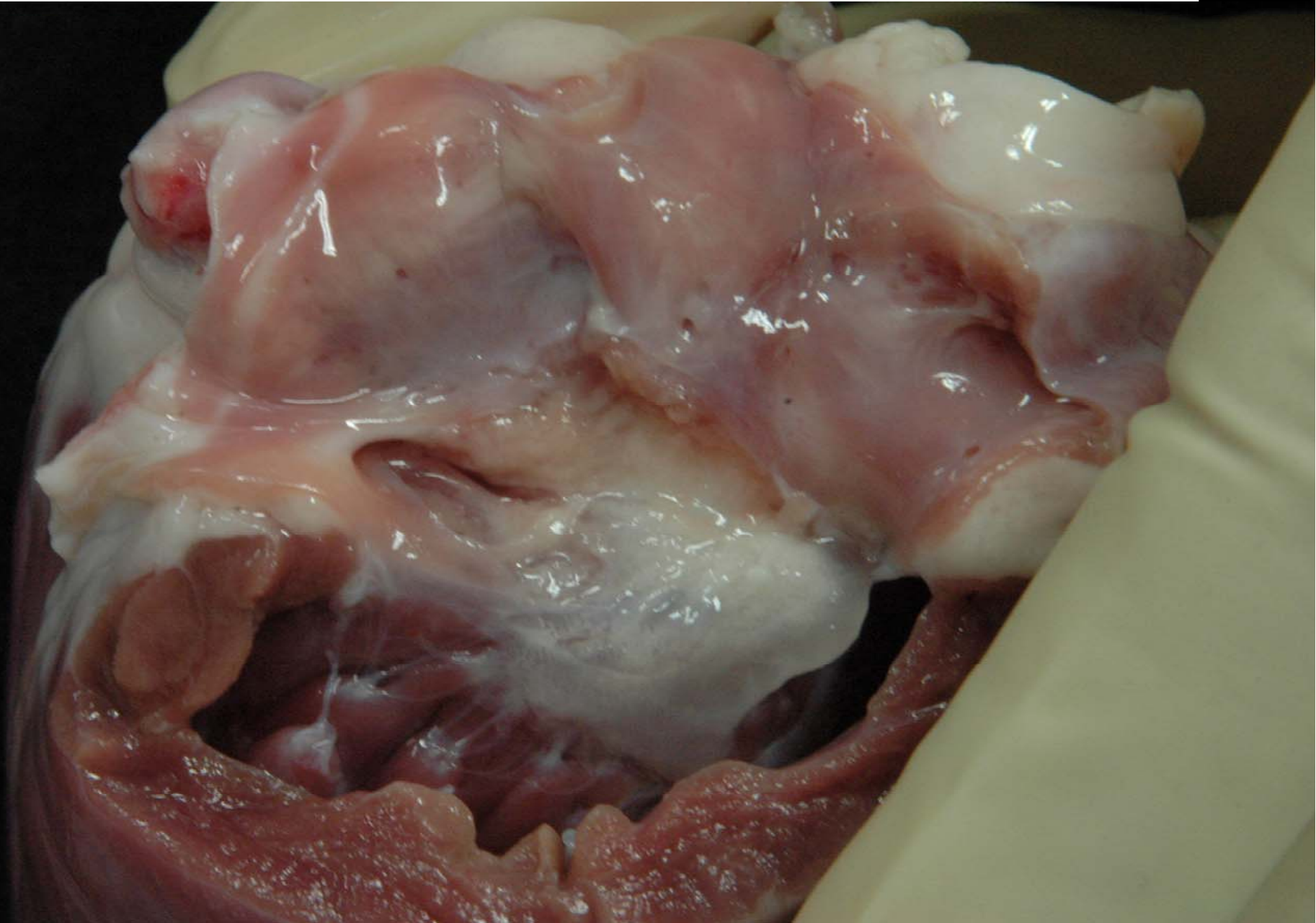


**Eustachian valve**

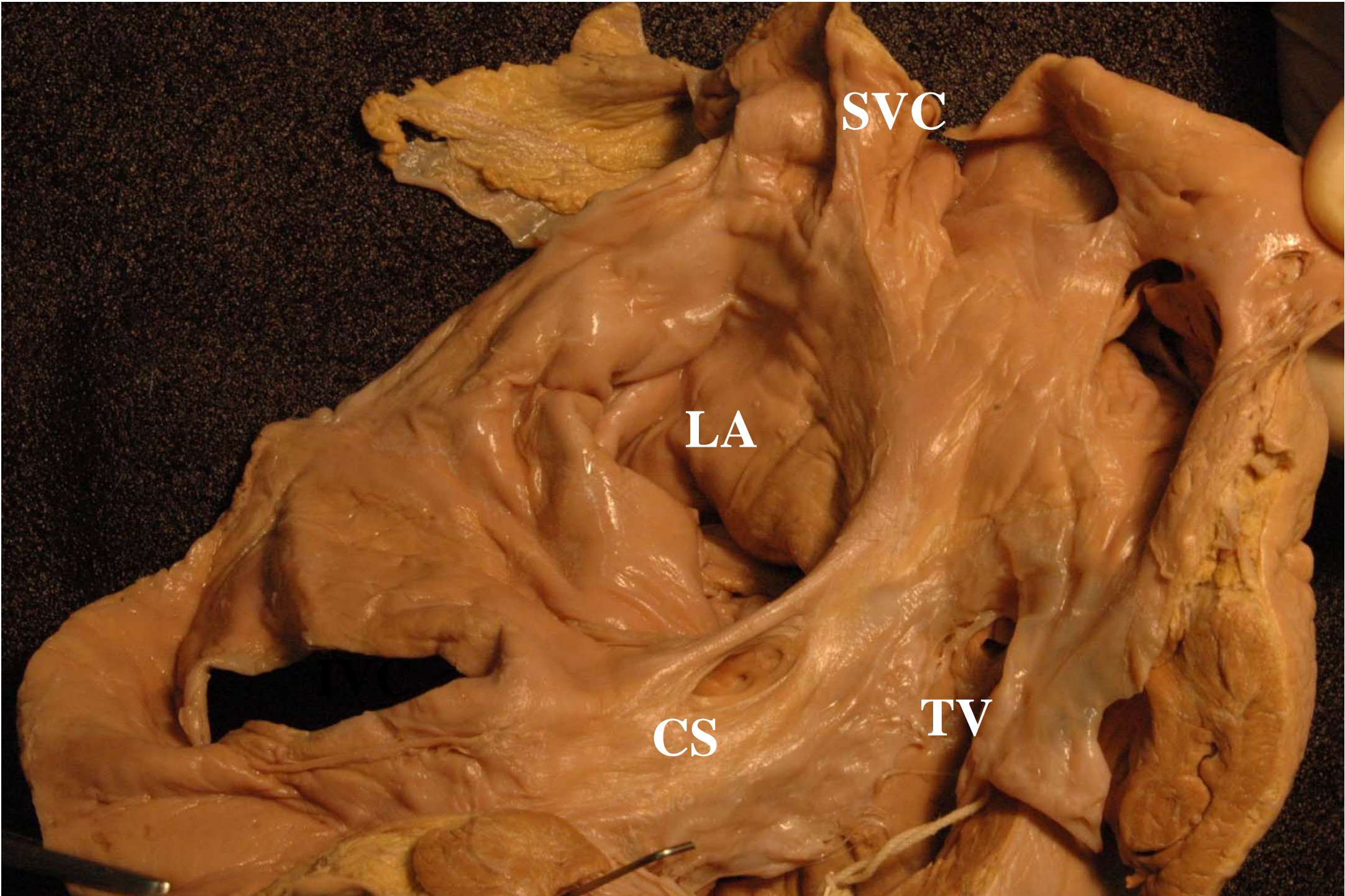
**CS**

**TV**

## Tendon of Todaro and central fibrous body





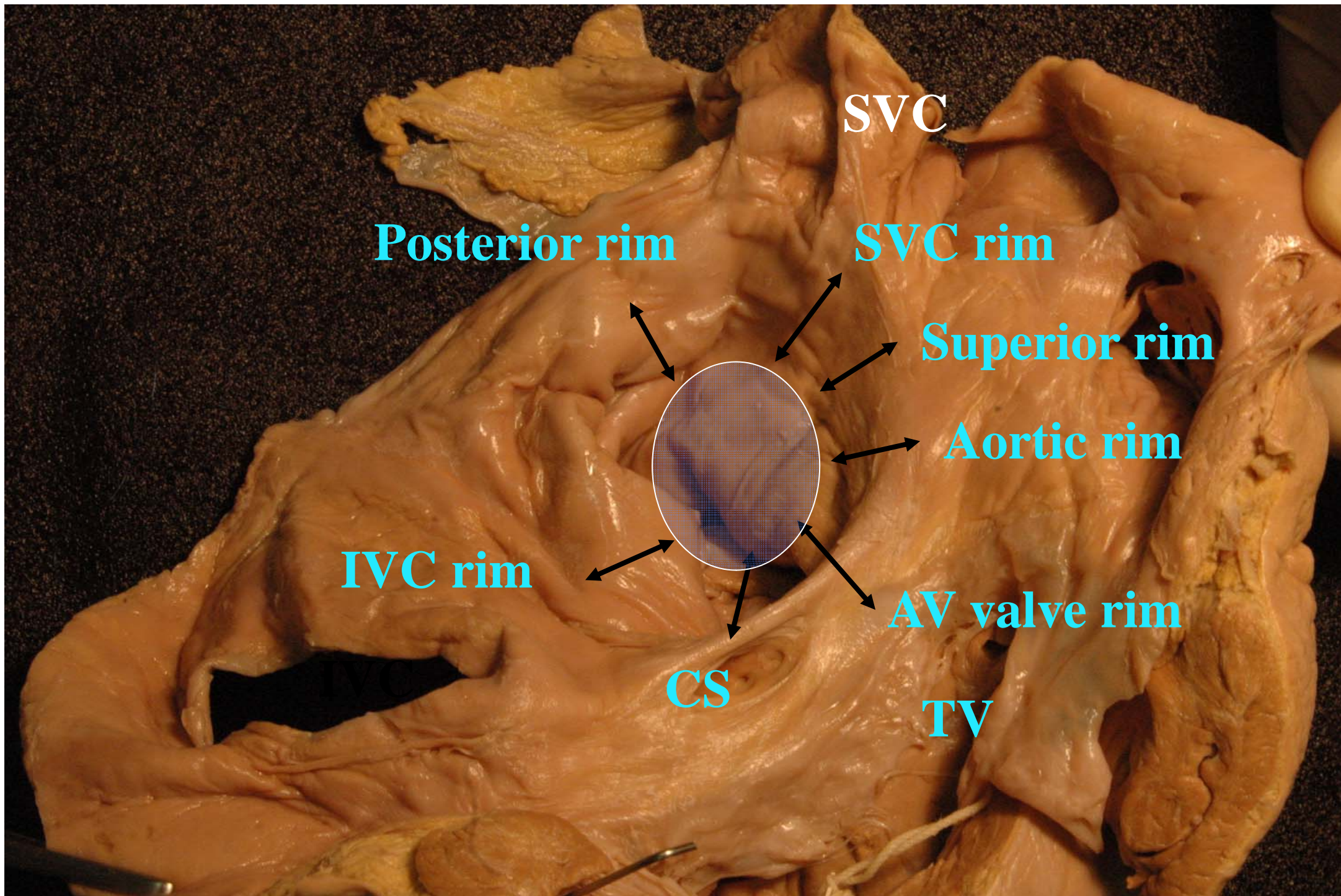


SVC

LA

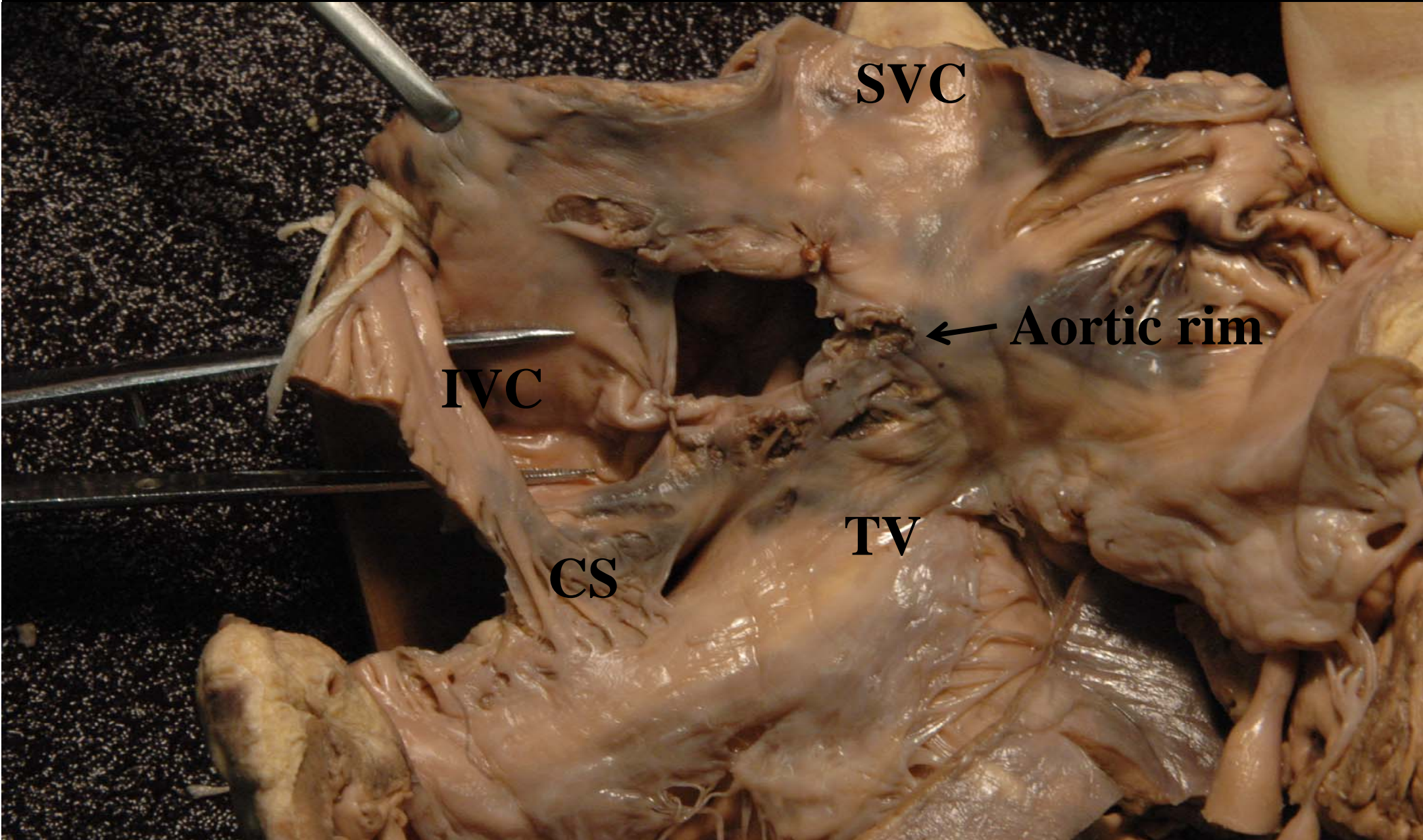
CS

TV

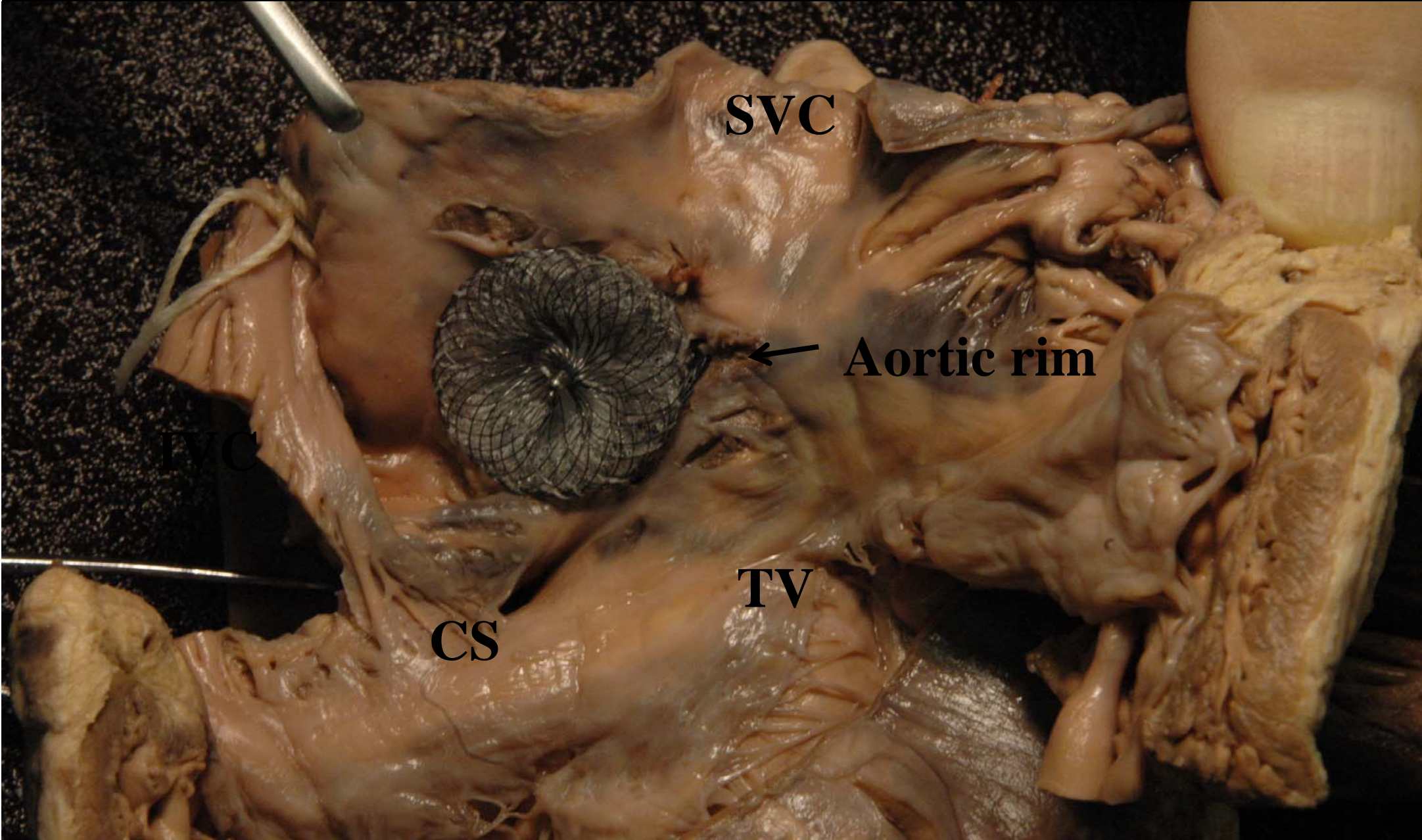




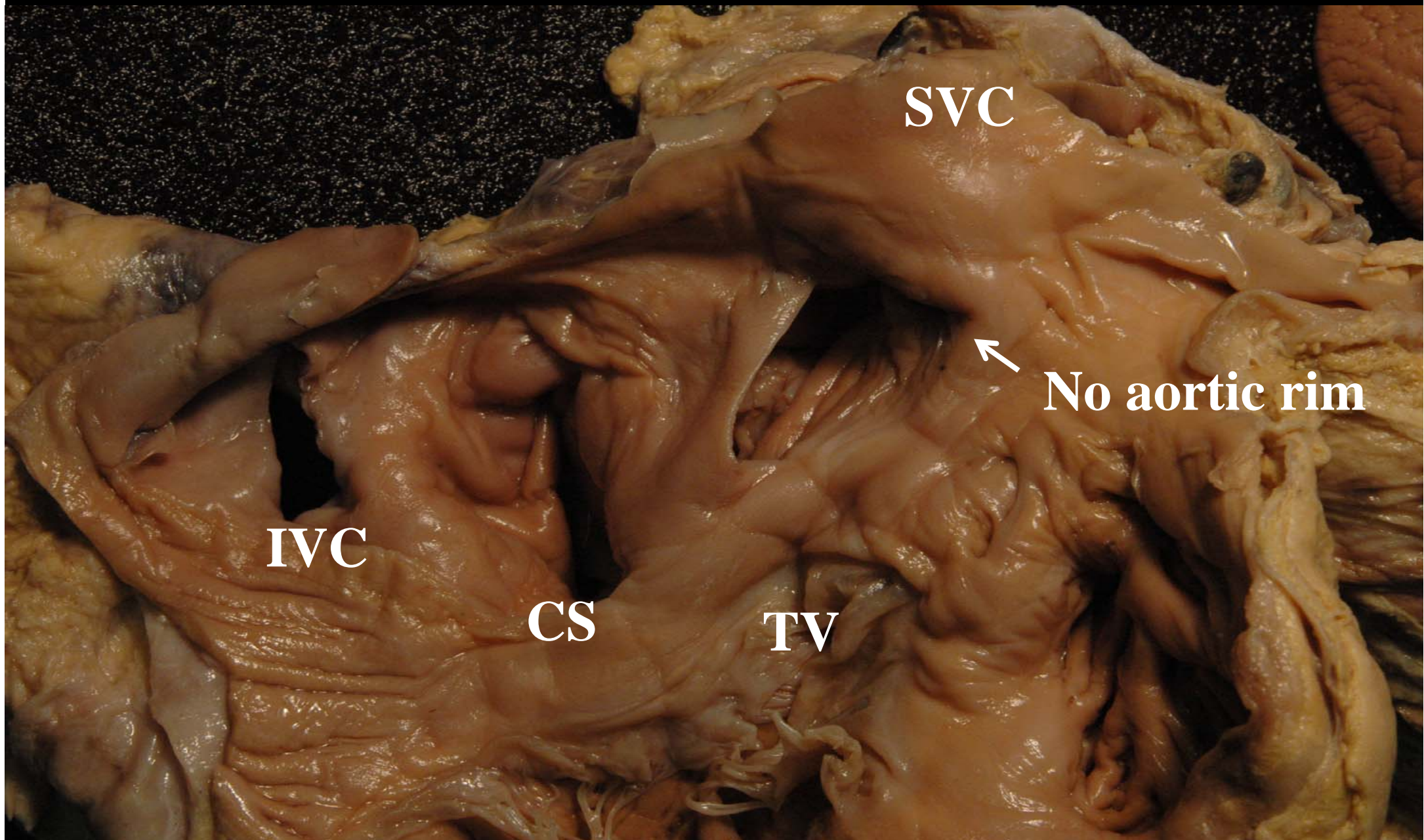
# ASD II with all rims



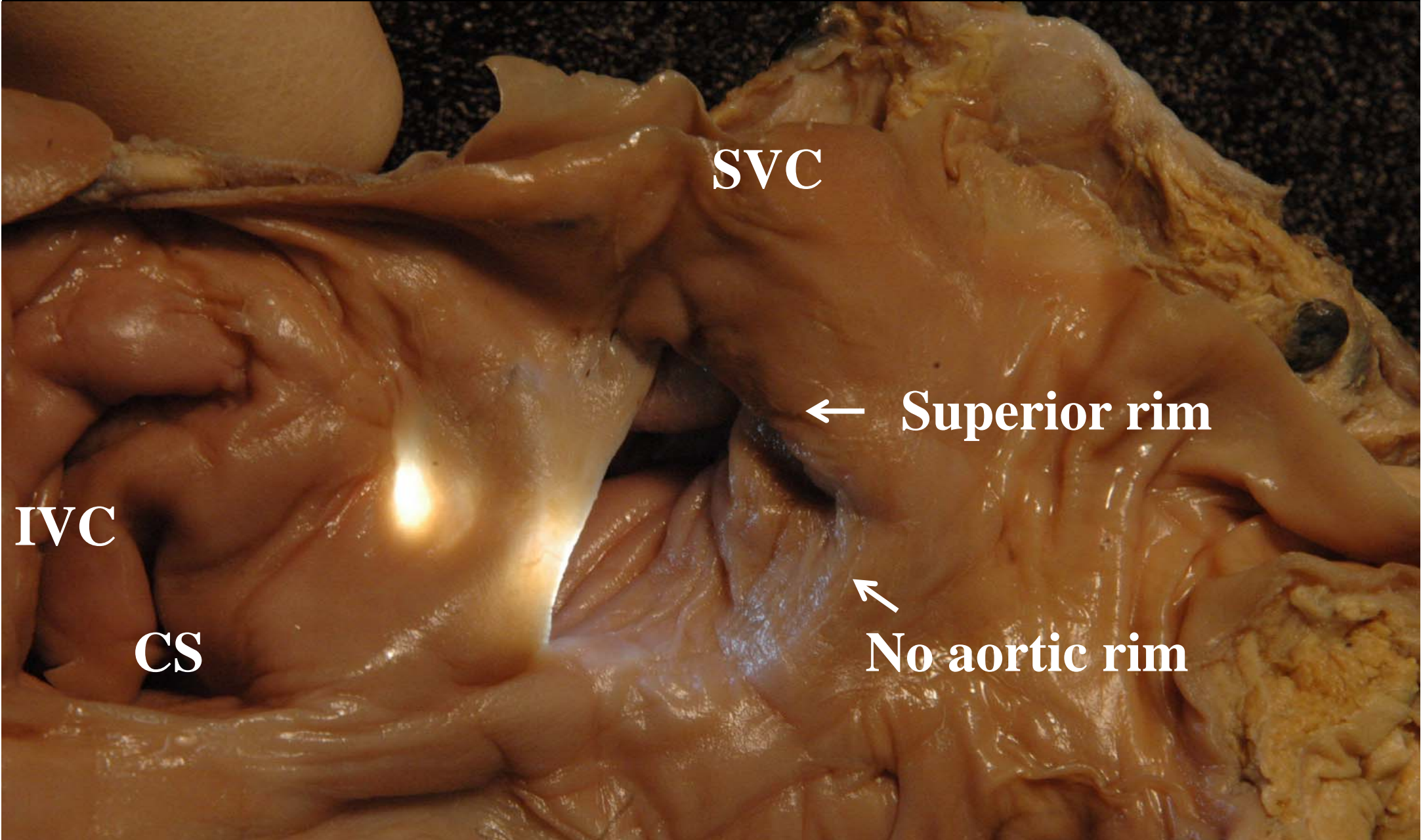
# ASD II with all rims



**No aortic rim**



**No aortic rim**



**SVC**

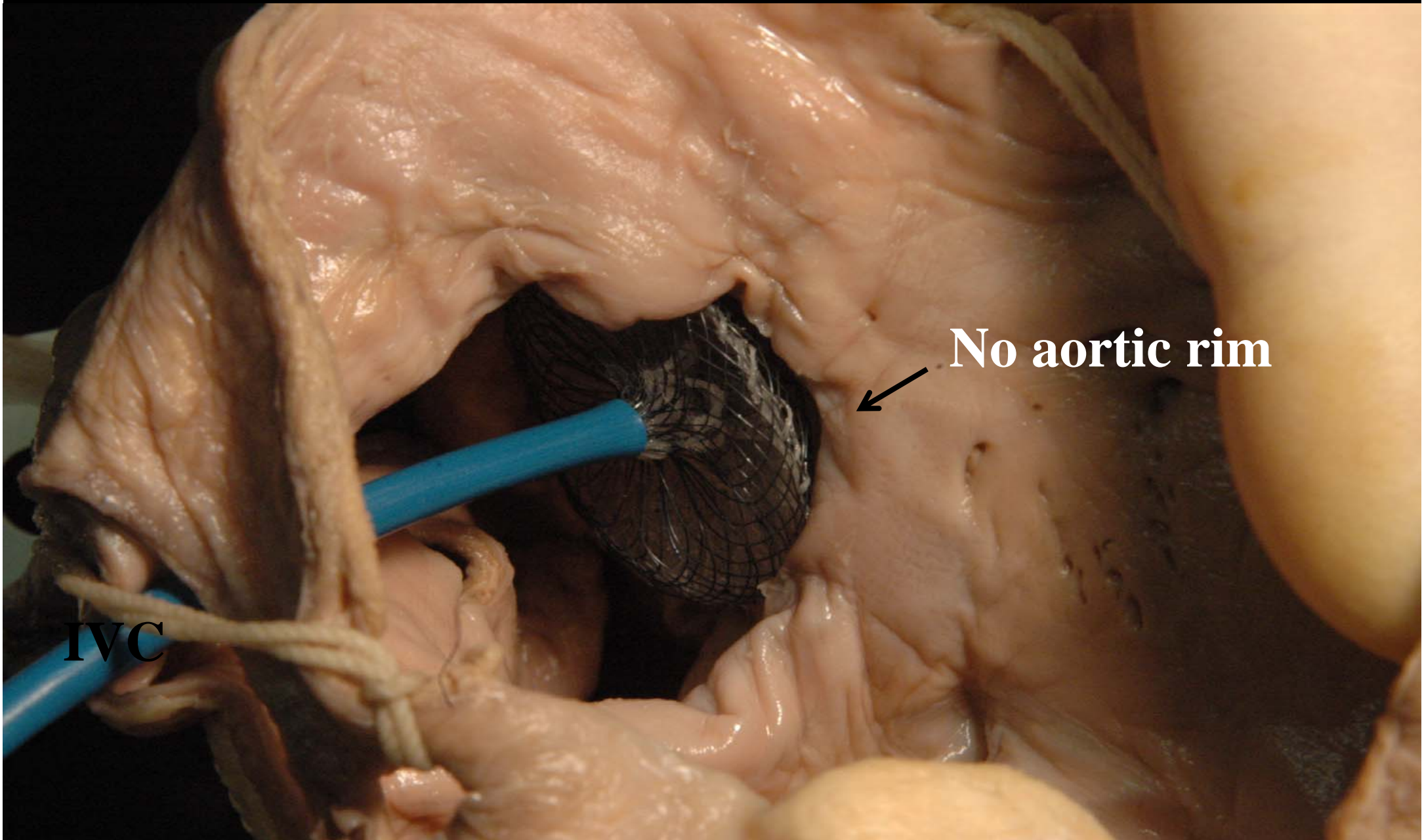
← **Superior rim**

**IVC**

**CS**

↖ **No aortic rim**

**No aortic rim**

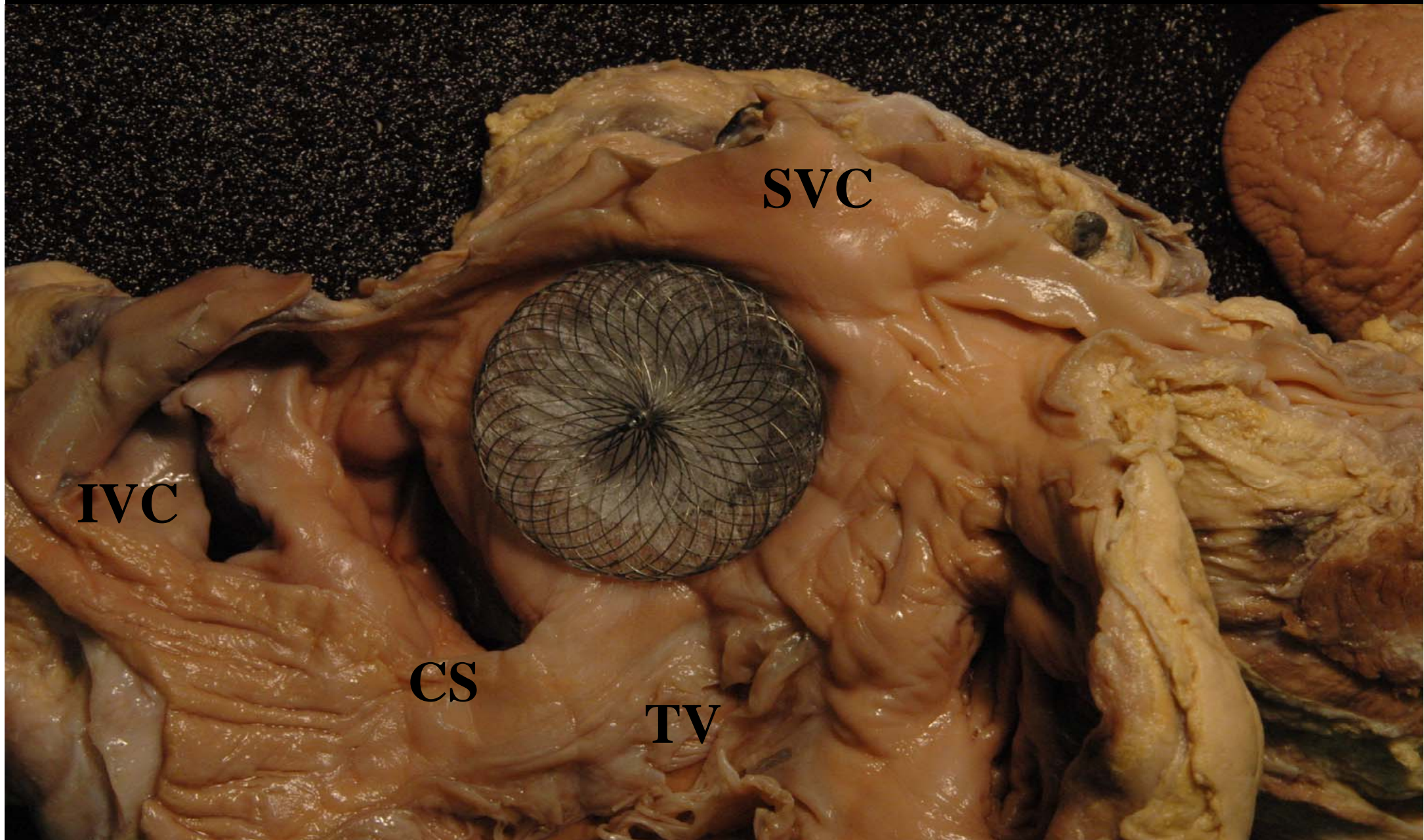


**No aortic rim**



**IVC**

# No aortic rim



**No aortic rim**

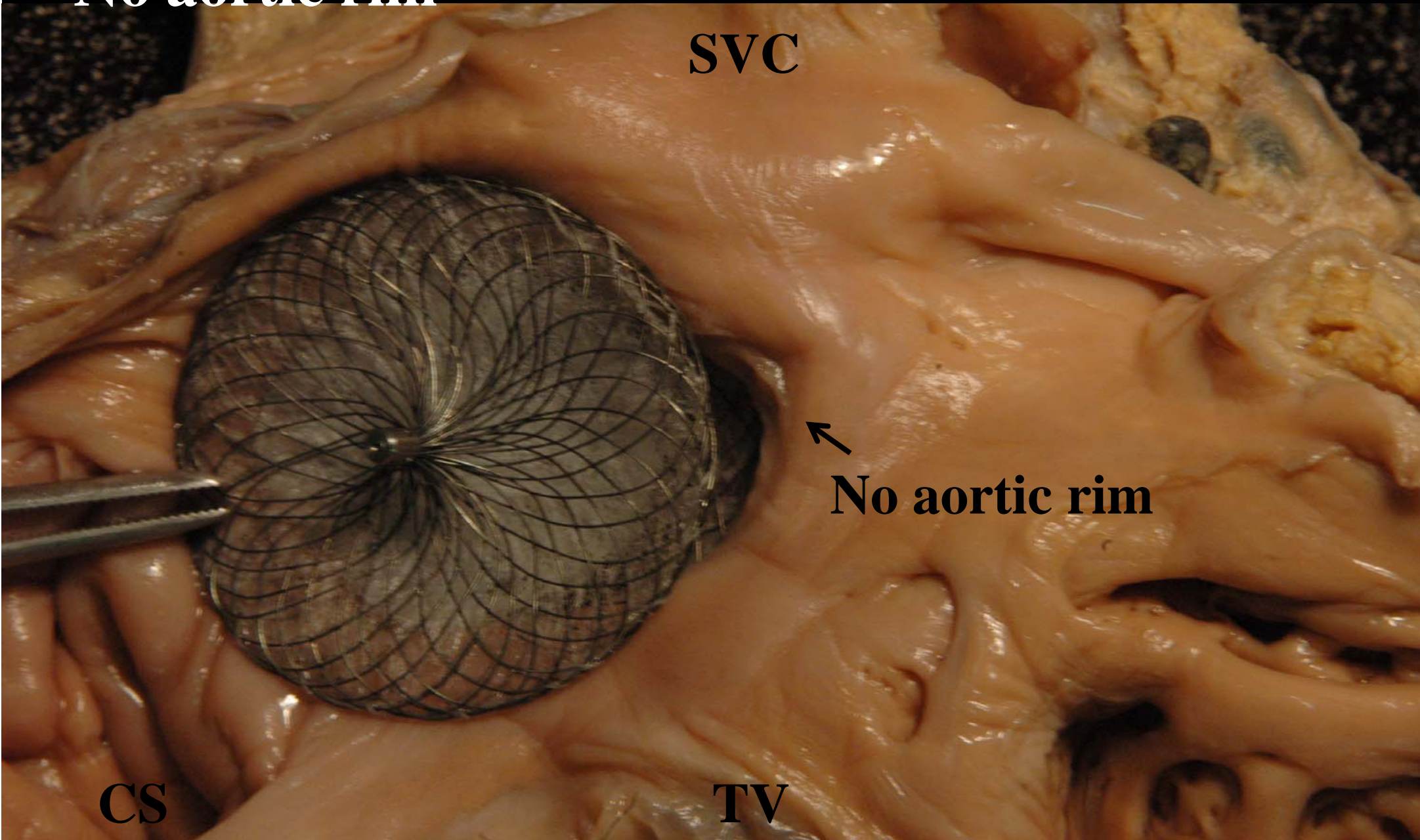
**SVC**



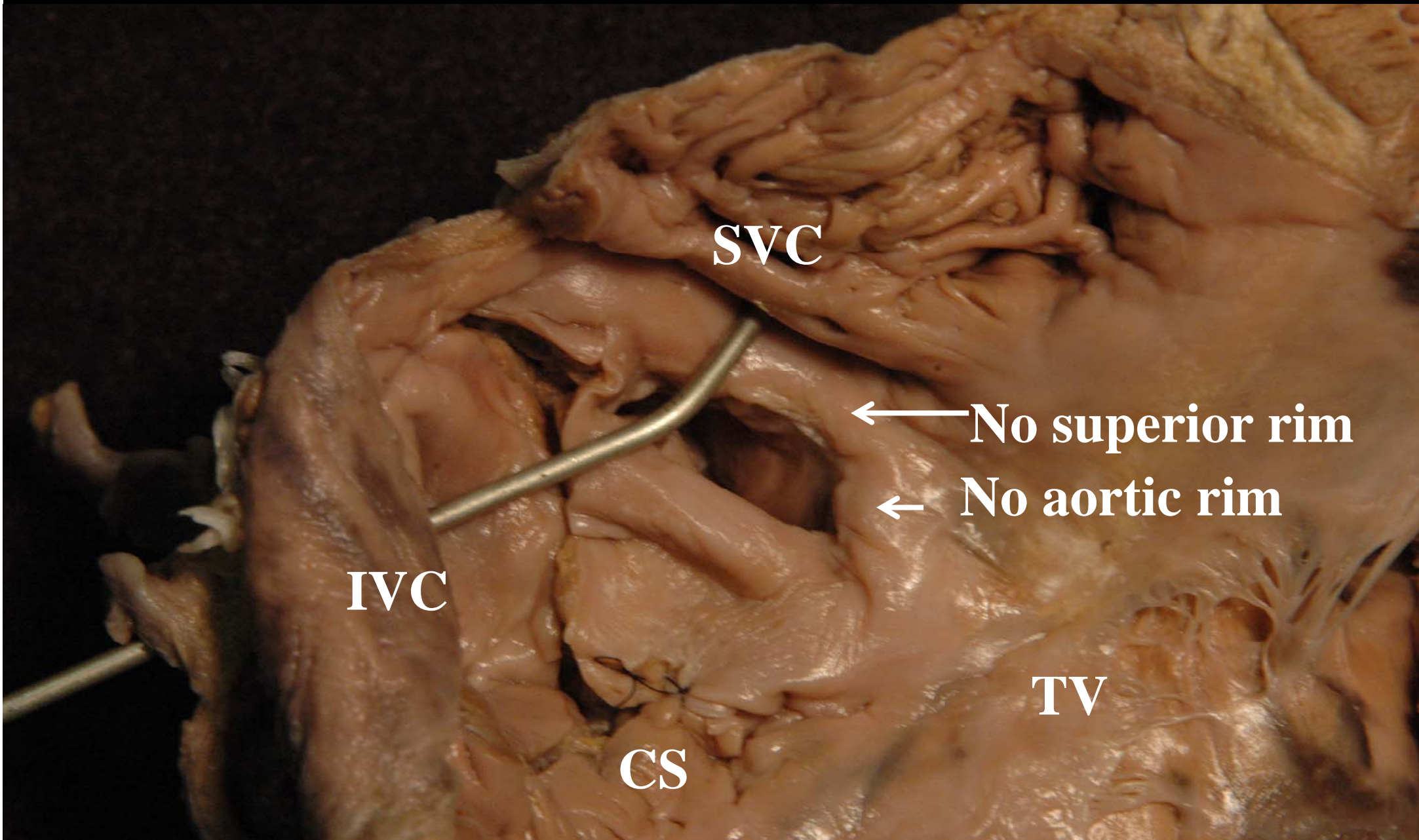
**No aortic rim**

**CS**

**TV**



# No aortic, superior rims





**No aortic, superior, SVC rims**

**SVC**

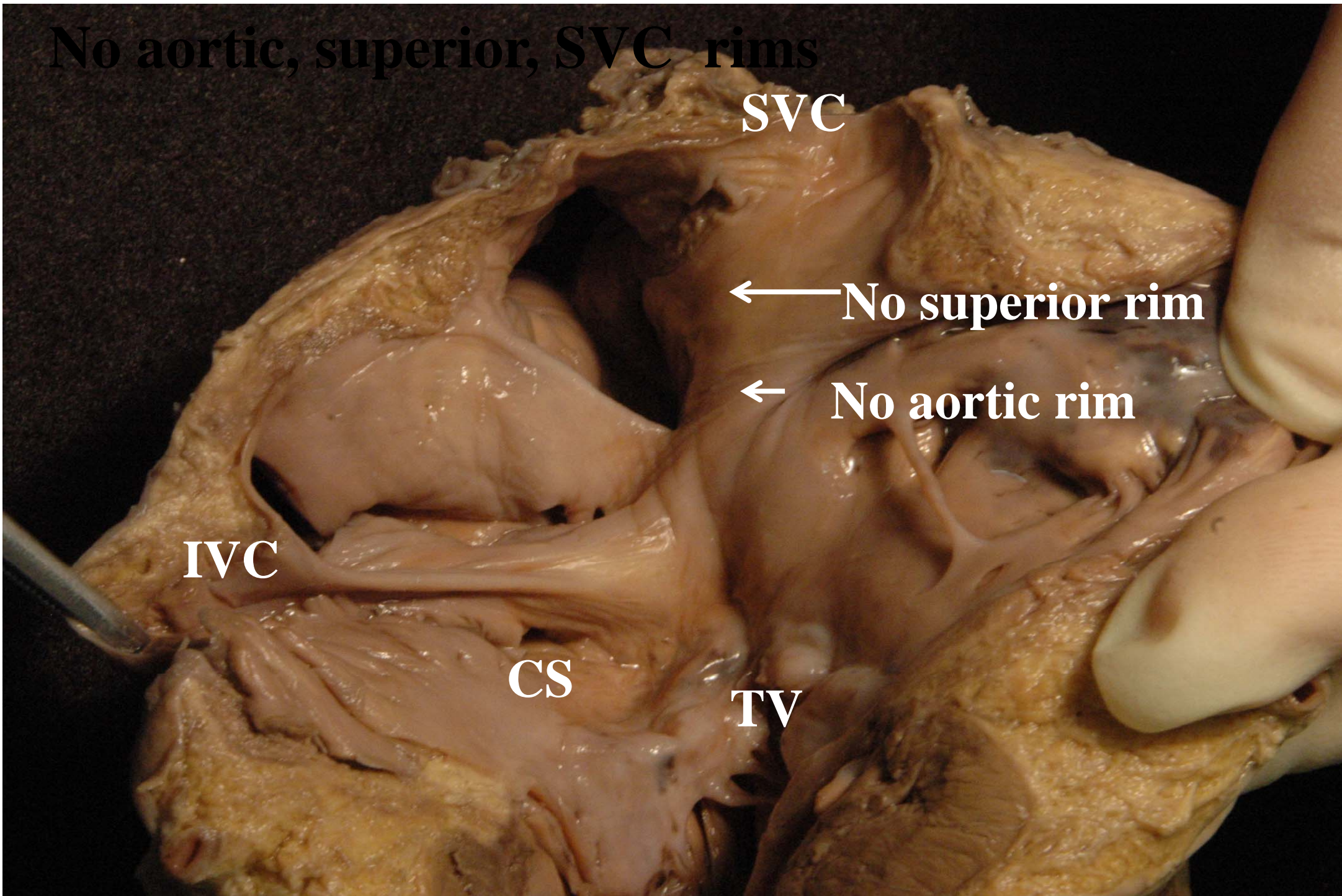
**← No superior rim**

**← No aortic rim**

**IVC**

**CS**

**TV**



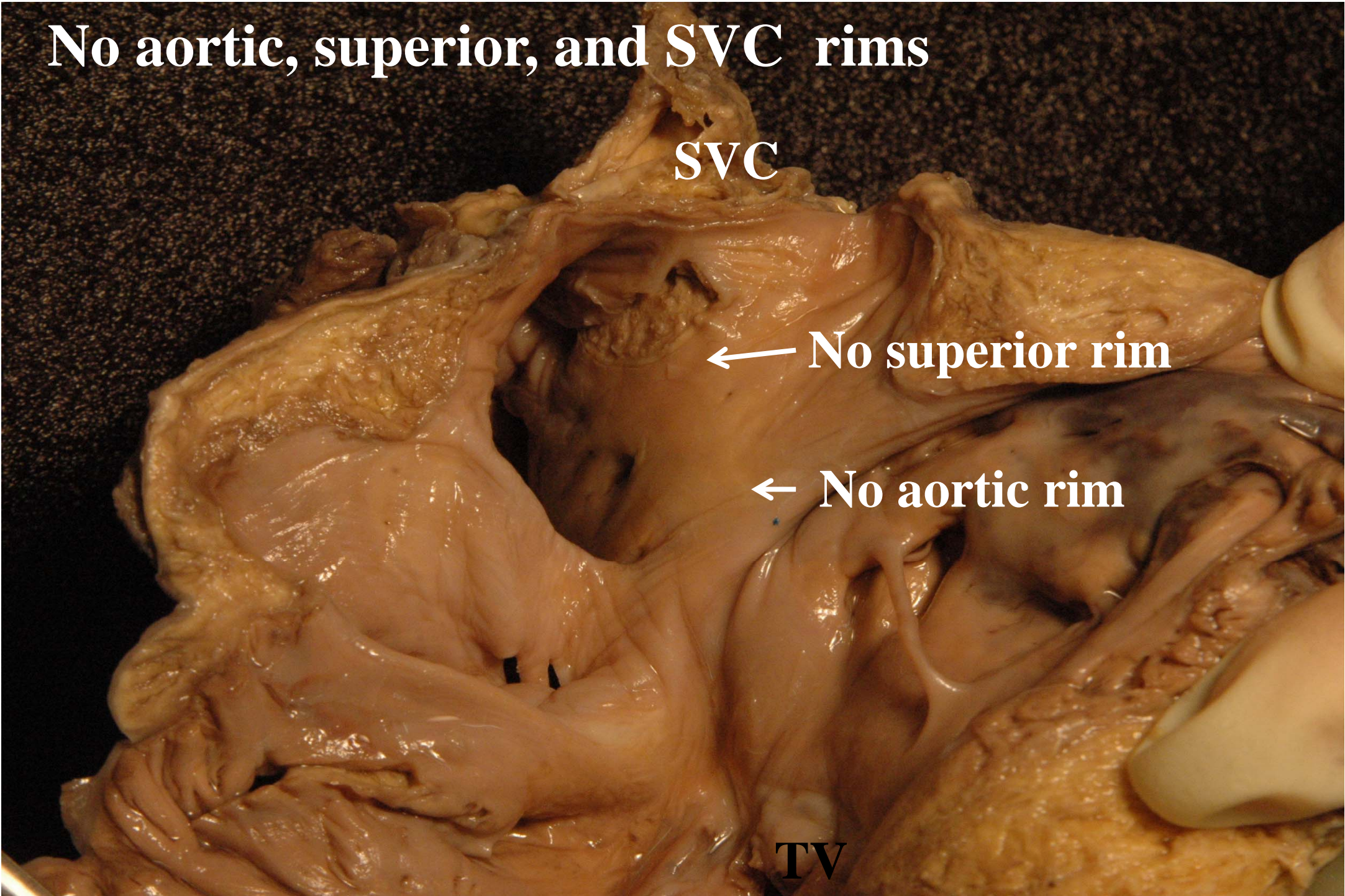
**No aortic, superior, and SVC rims**

**SVC**

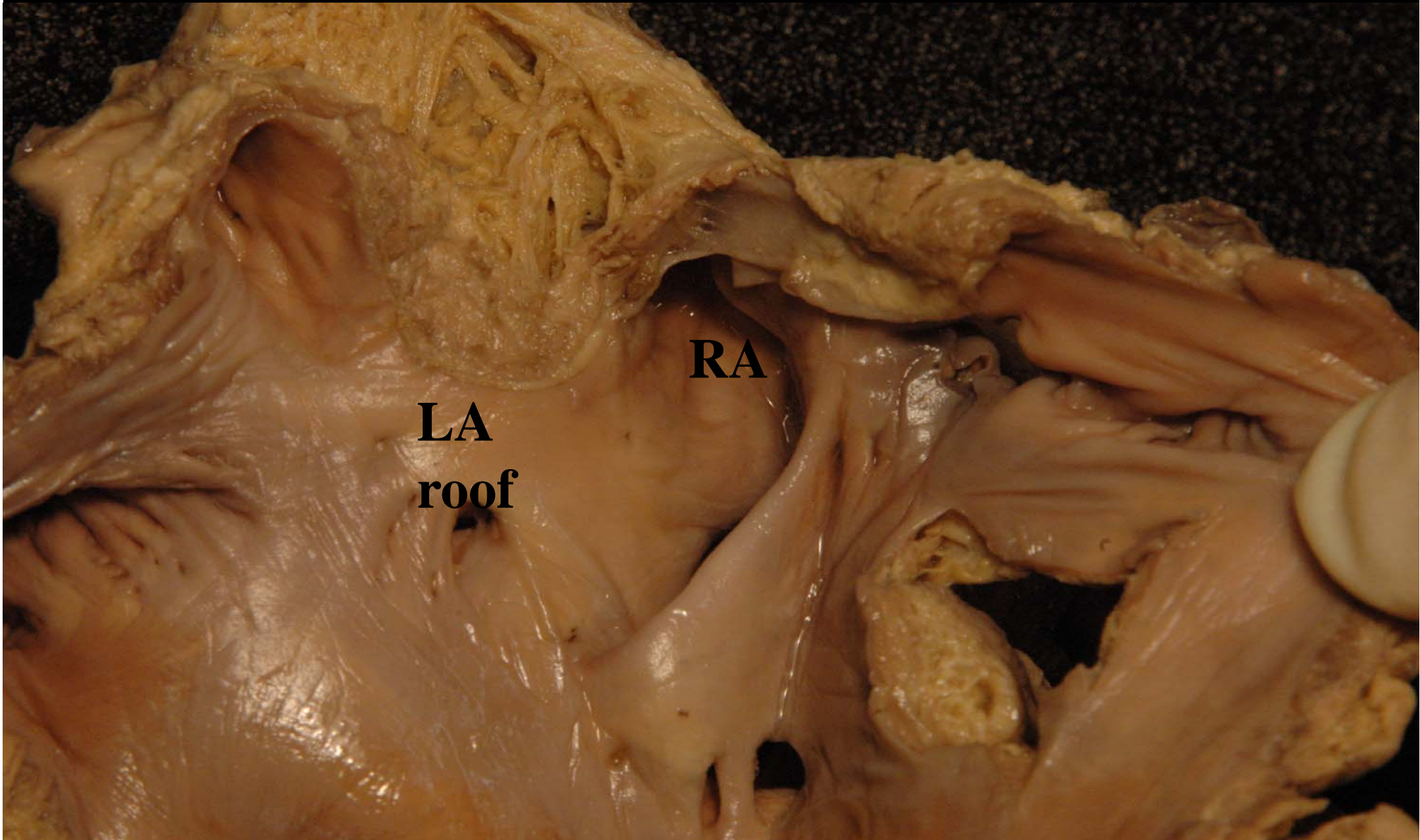
← **No superior rim**

← **No aortic rim**

**TV**



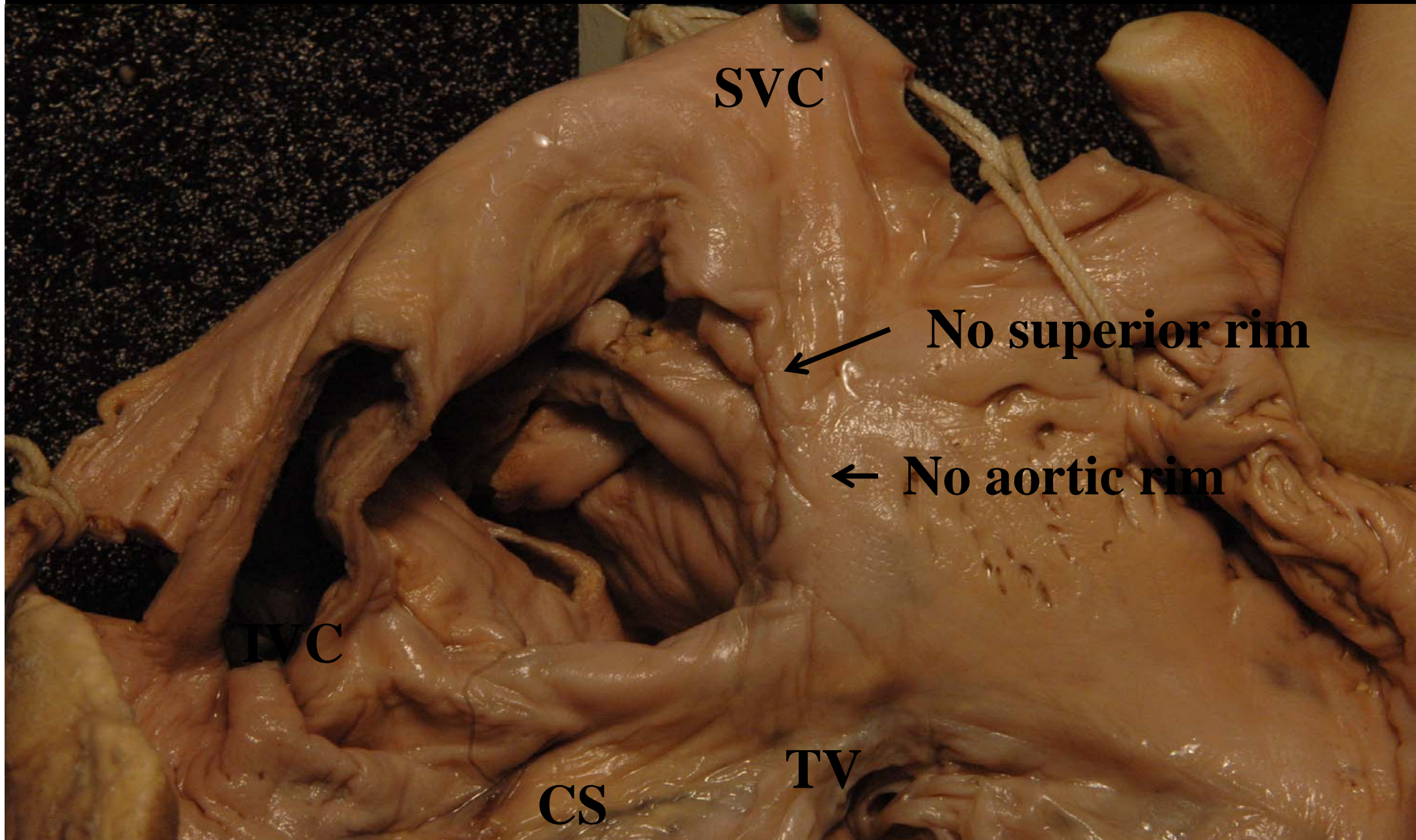
**No aortic, superior, and SVC rims**



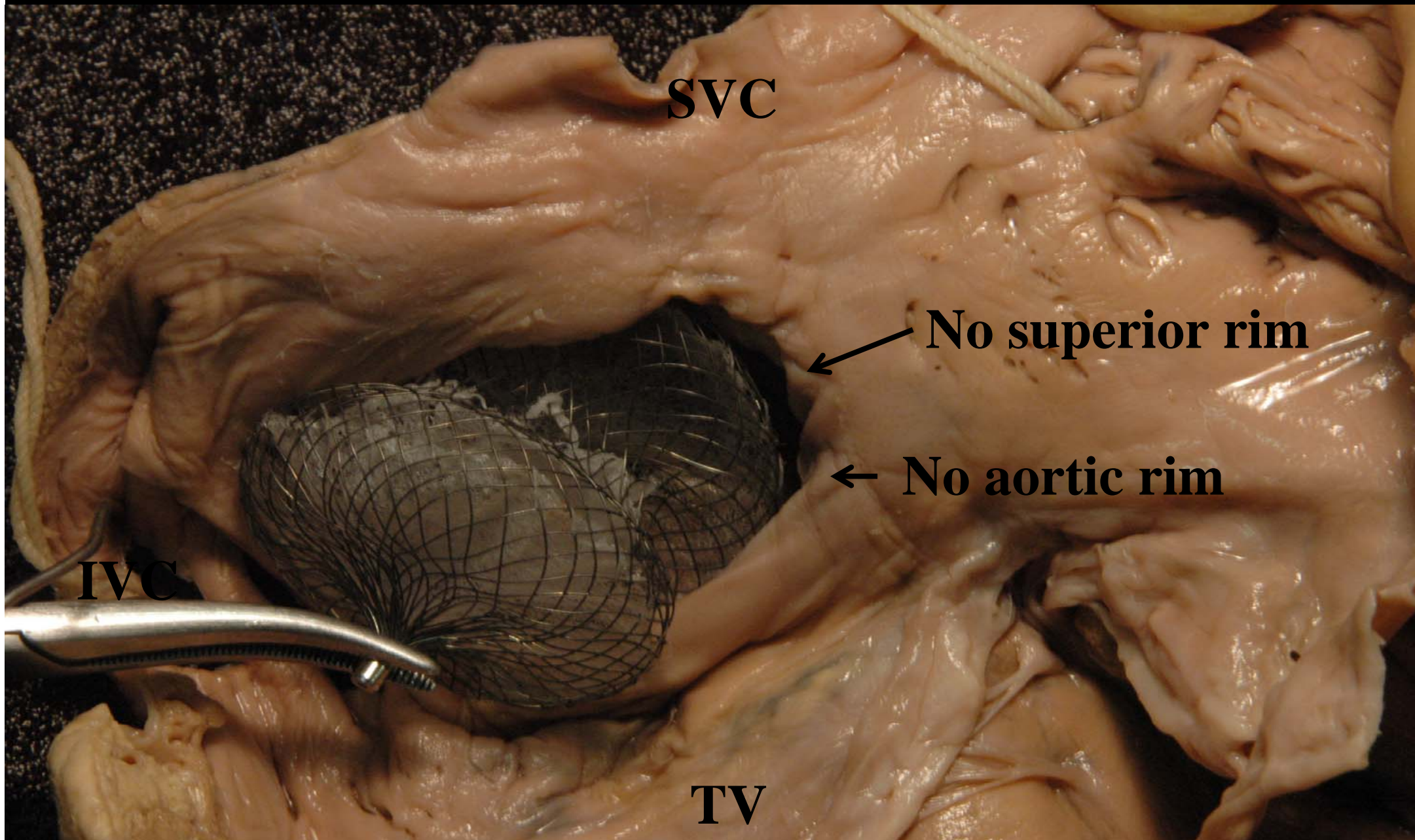
**LA  
roof**

**RA**

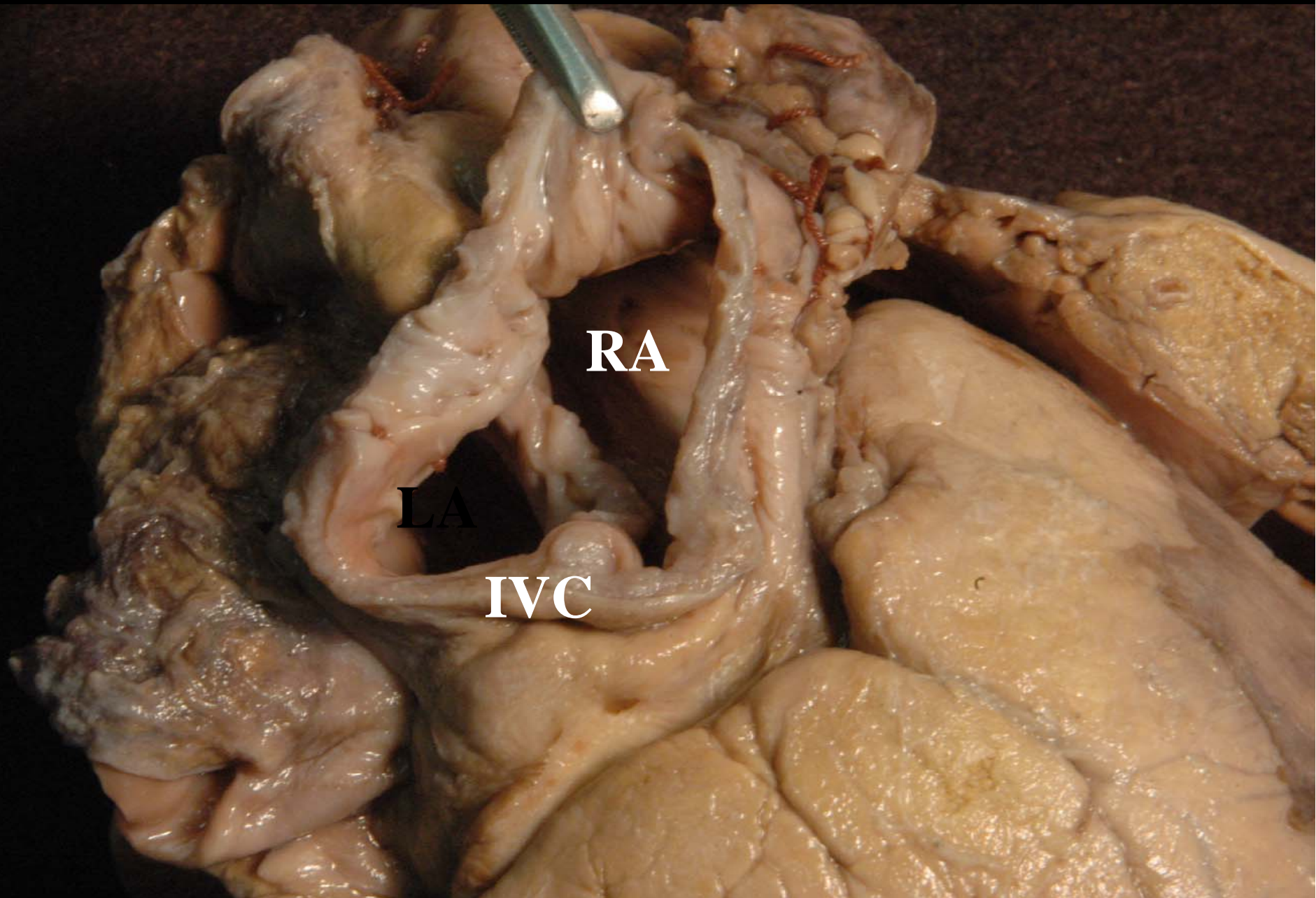
# No aortic, and superior rims



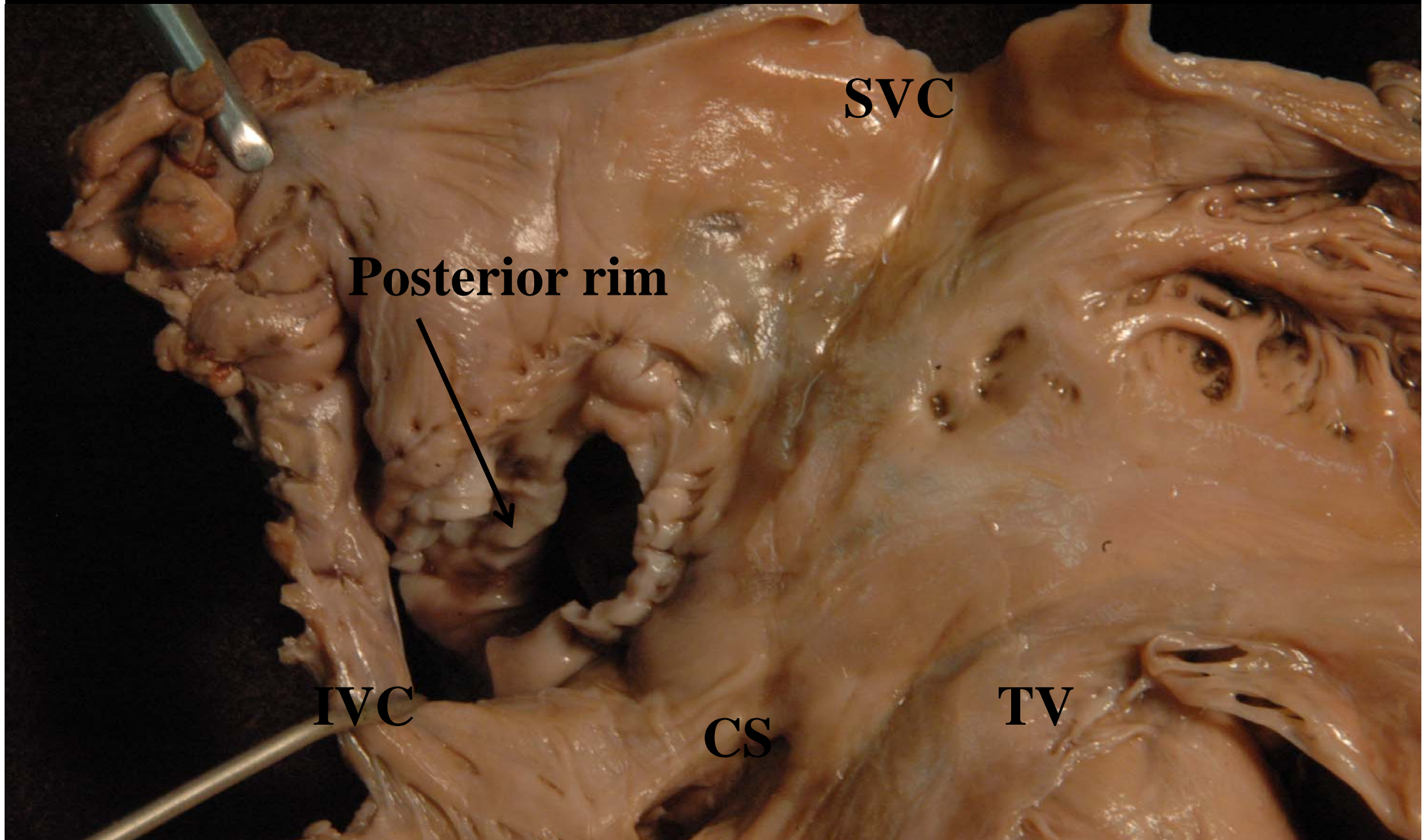
# No aortic, and superior rims



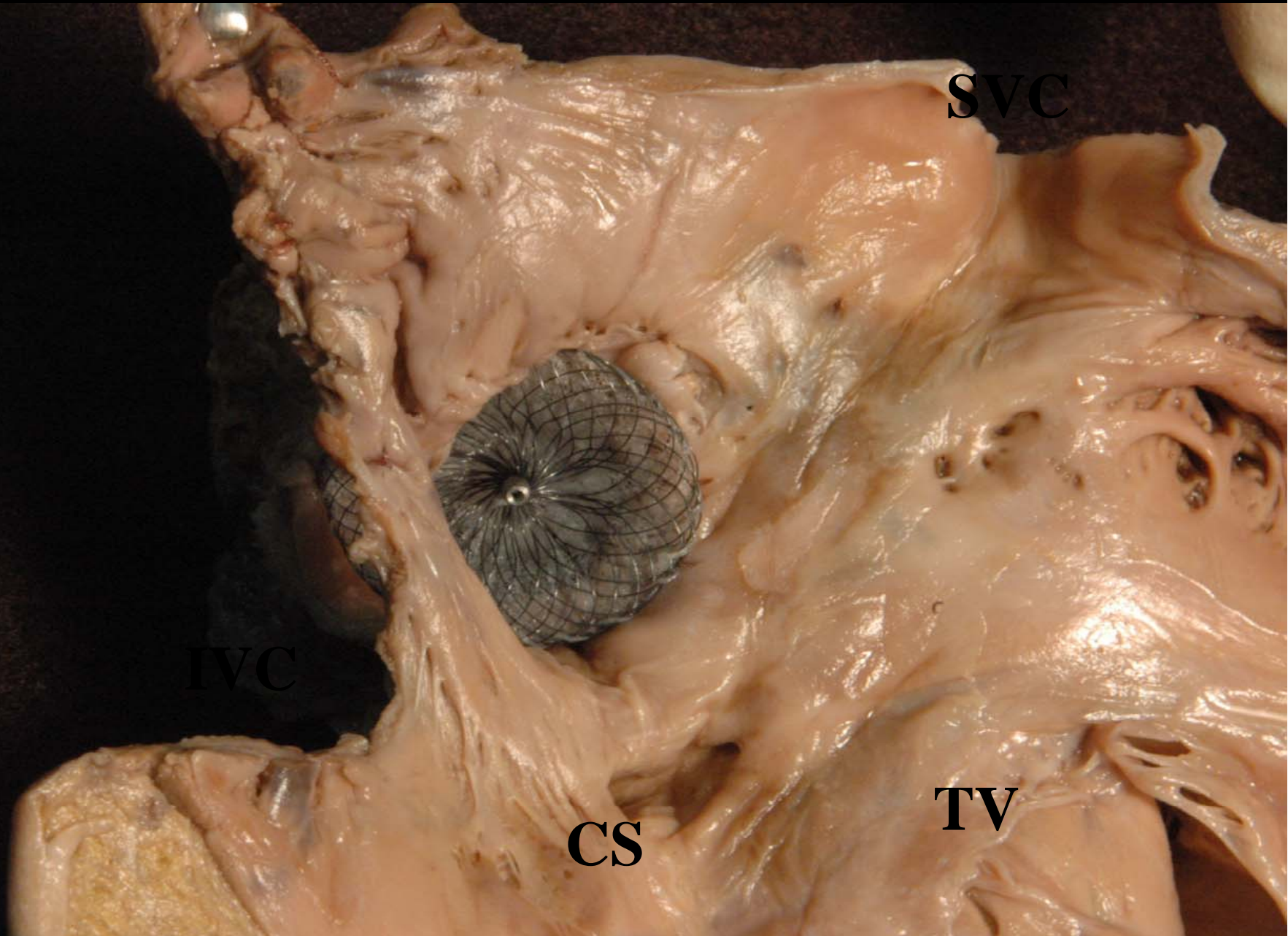
**No IVC rim**



**No IVC rim**



**No IVC rim**



**SVC**

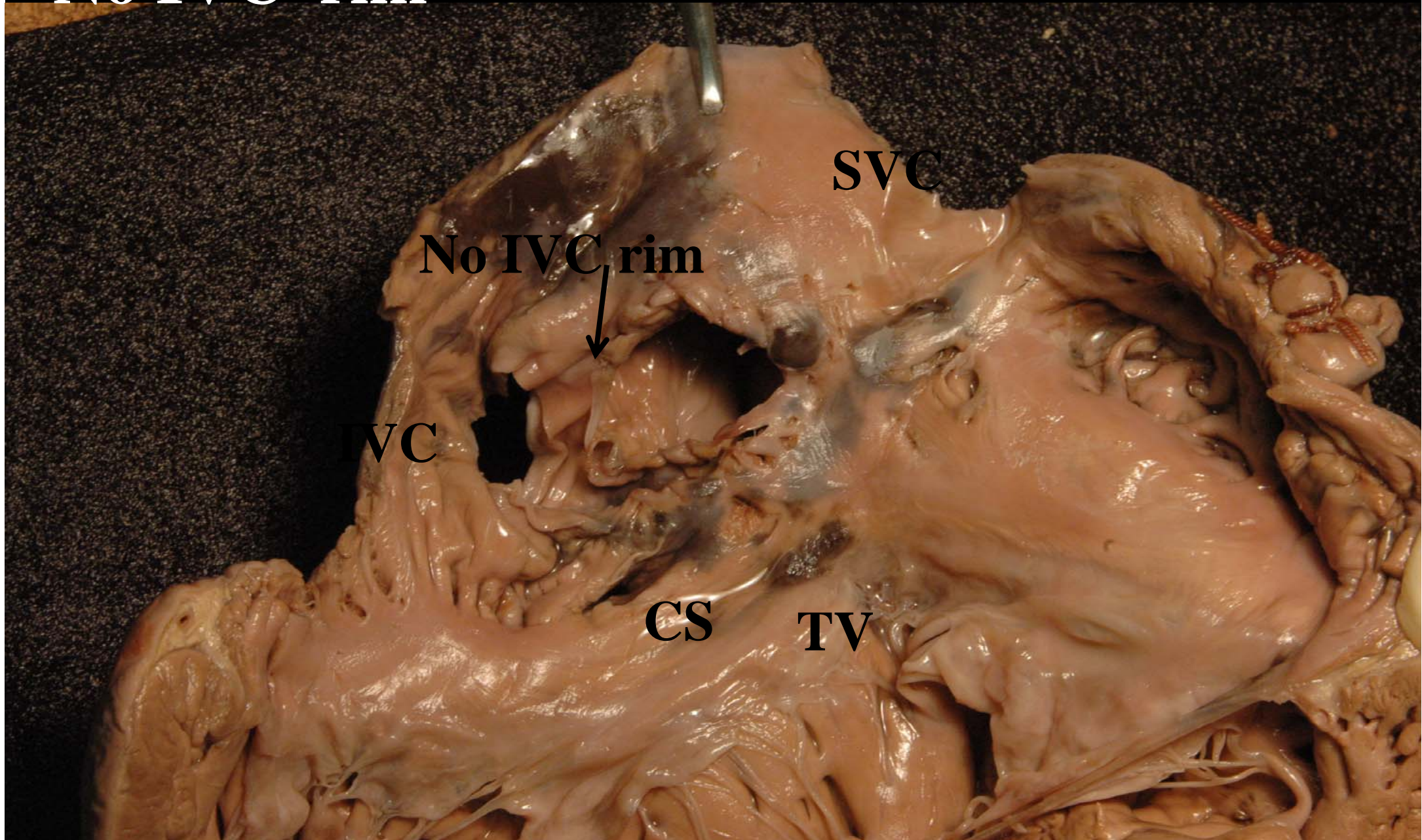
**IVC**

**CS**

**TV**



# No IVC rim



**No IVC rim**

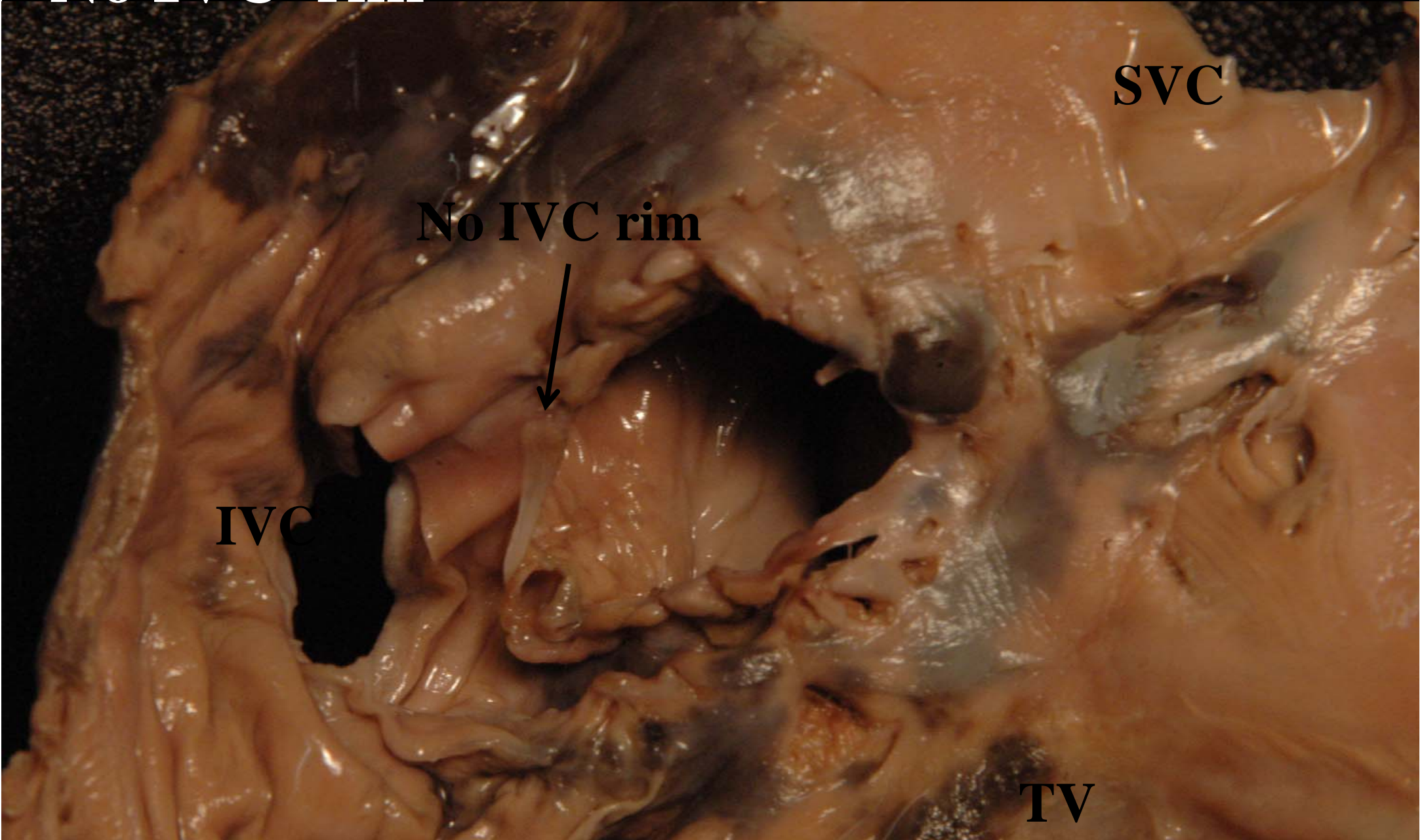
**SVC**

**No IVC rim**

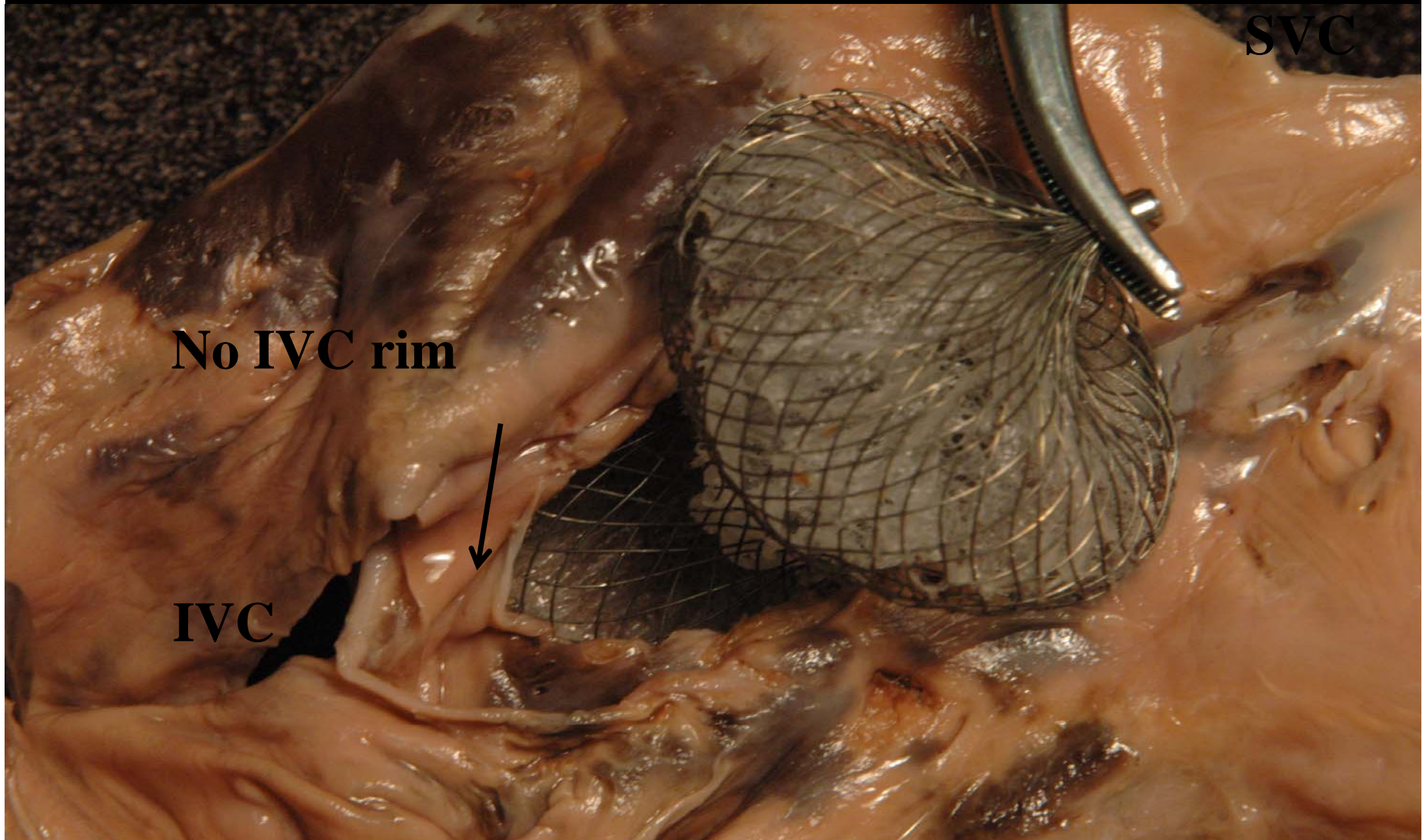


**IVC**

**TV**



# Almost no IVC rim

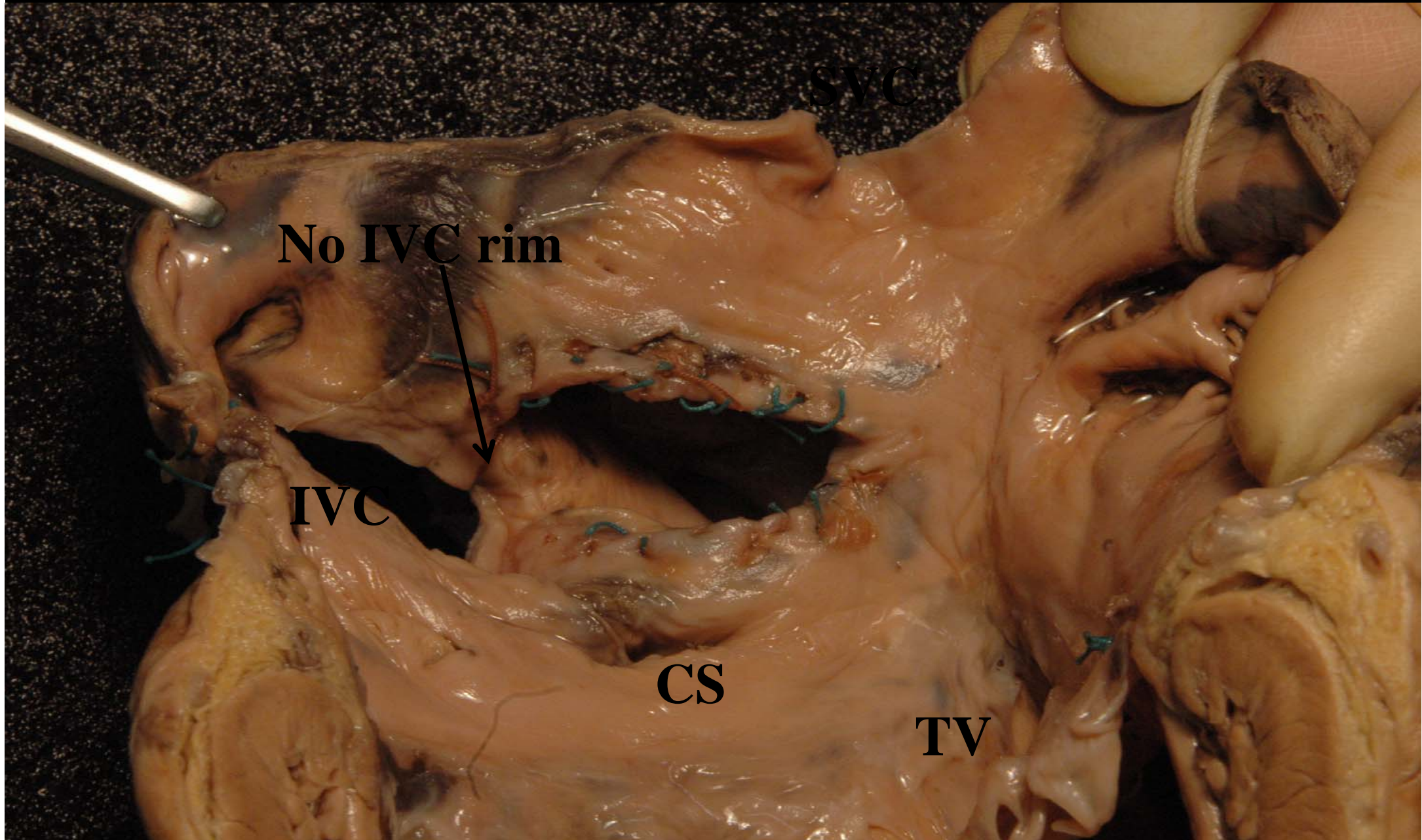


SVC

No IVC rim

IVC

**No IVC rim**



SYC

**No IVC rim**

**IVC**

**CS**

**TV**

PHILIPS

TOKUSHIGE IKUHISA

09/07/2010

10:47:55AM

TIS0.1

MI 0.4

13466105

T.W.M.U

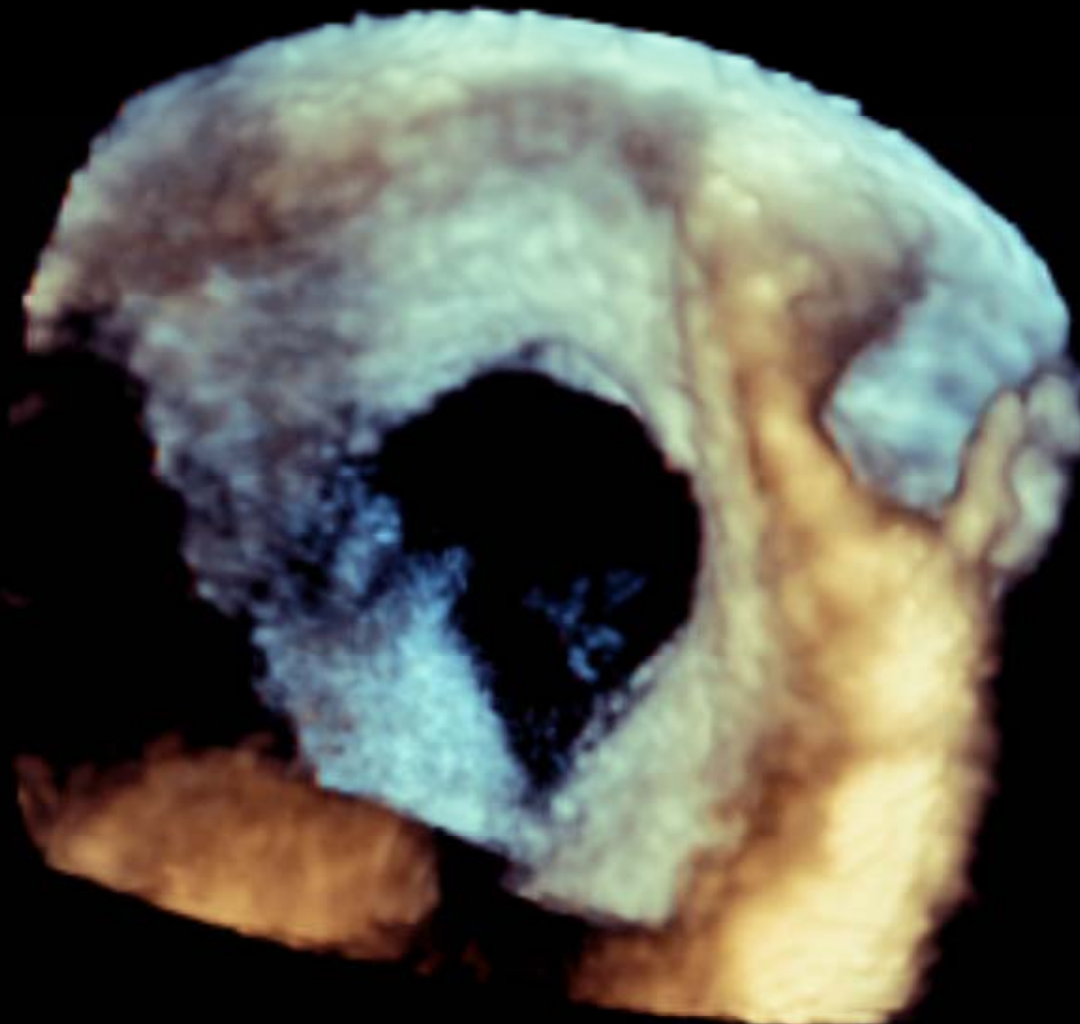
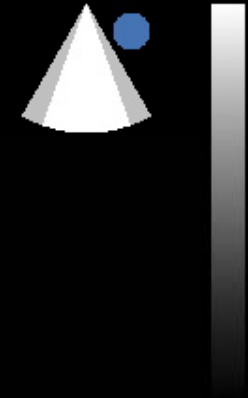
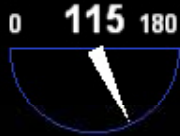
X7-2t/TWMU 3DTEE

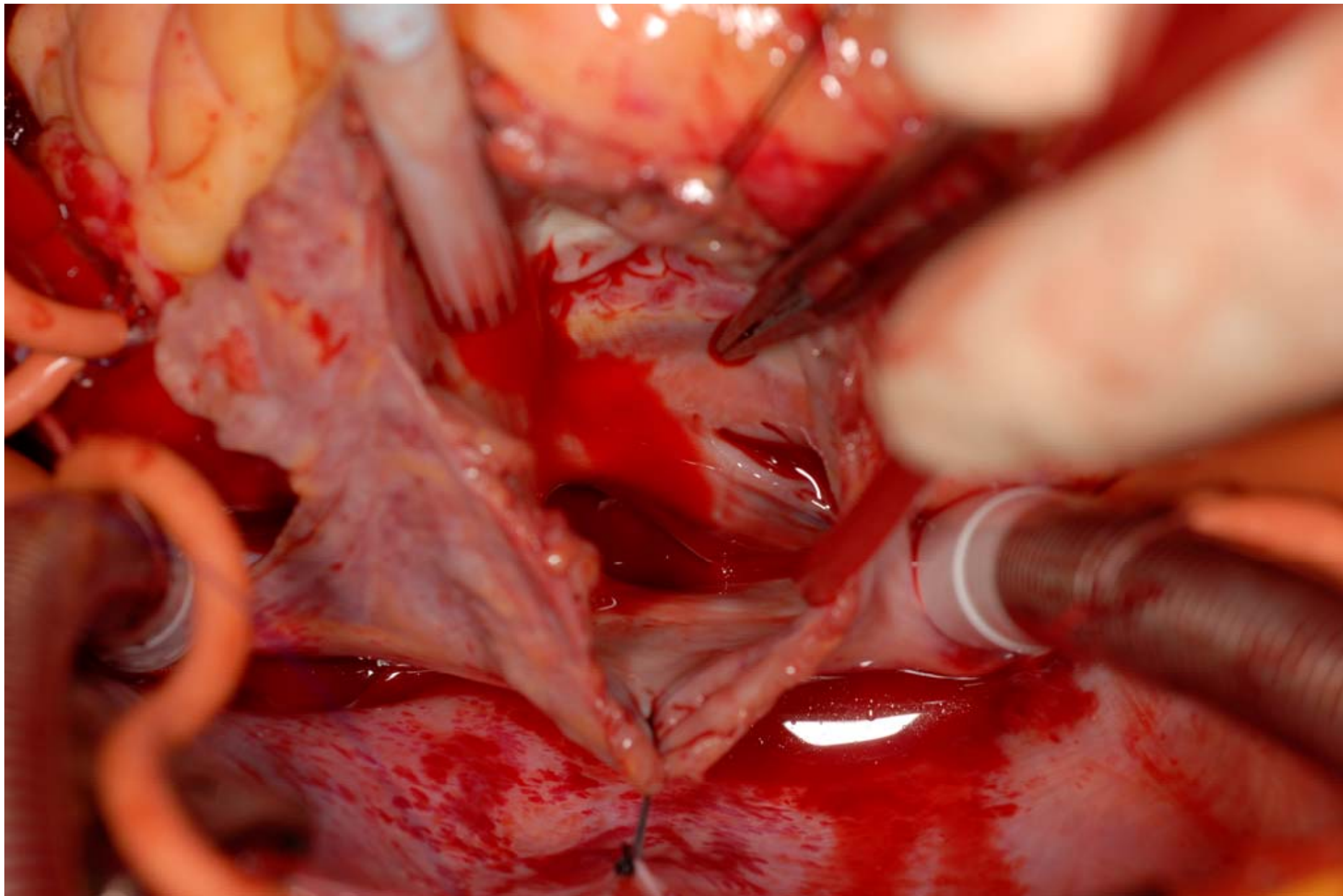
FR 5Hz  
3.7cm

0:12:24

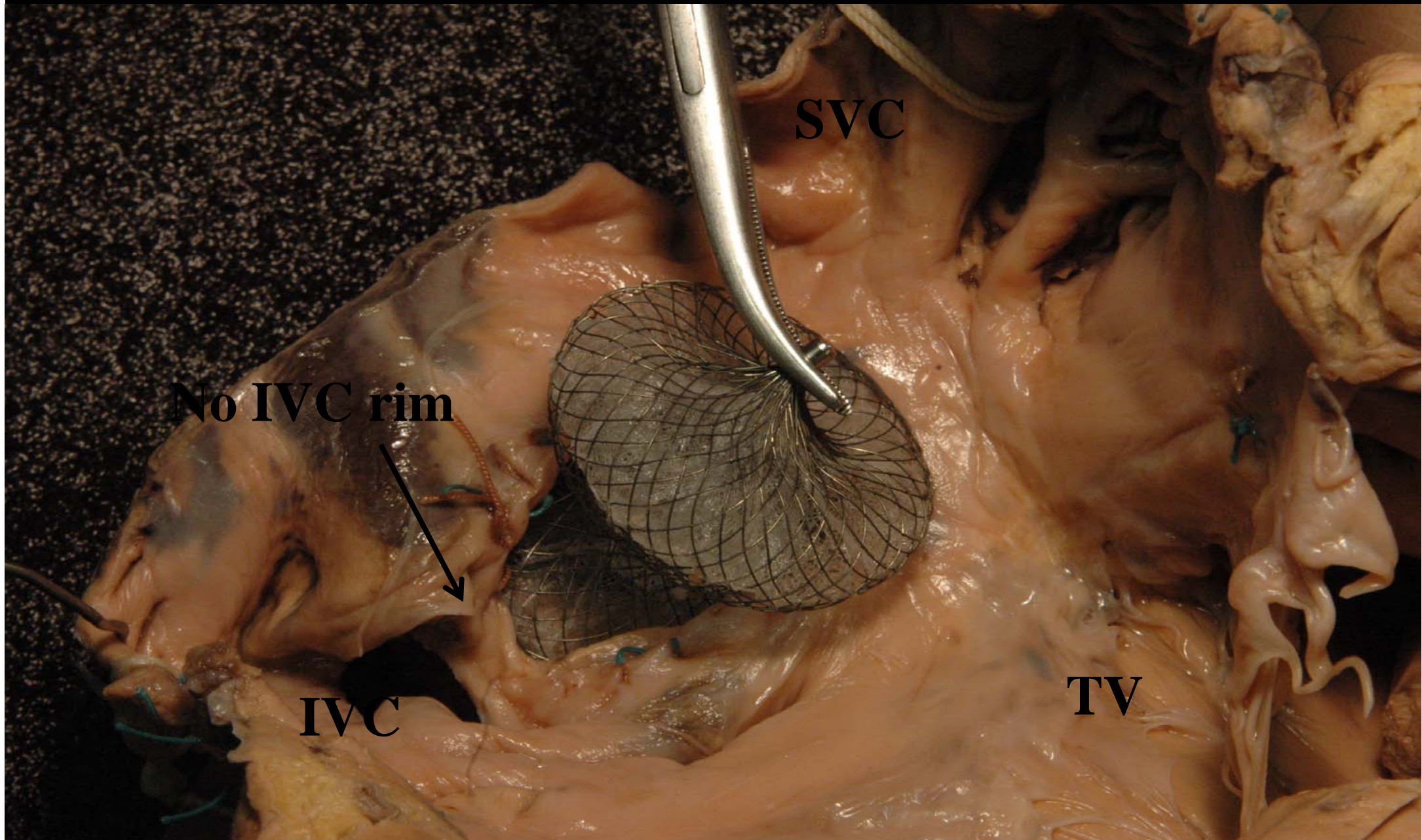
M4

Live 3D  
3D 5%  
3D 50dB  
Gen





**No IVC rim**



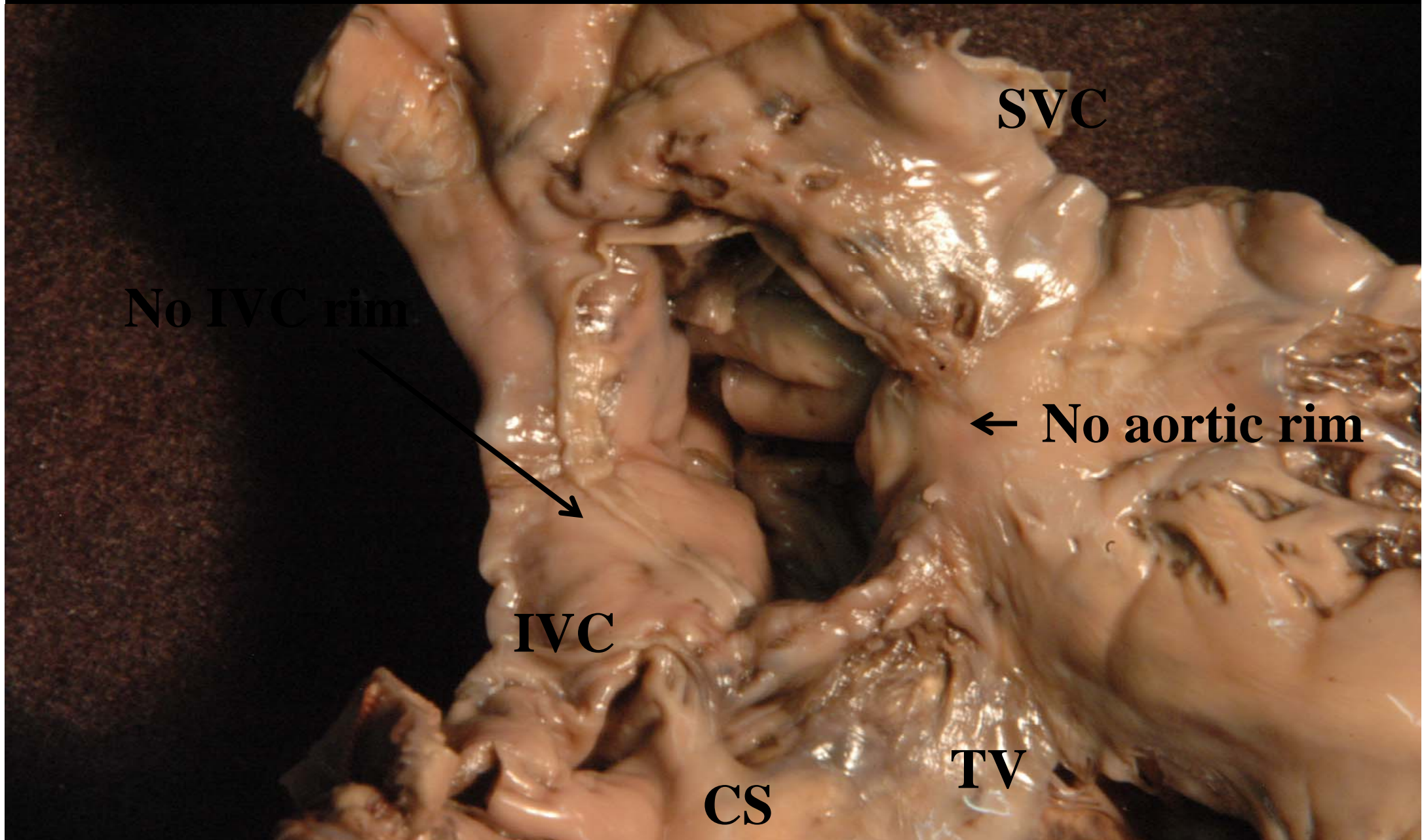
**SVC**

**No IVC rim**

**IVC**

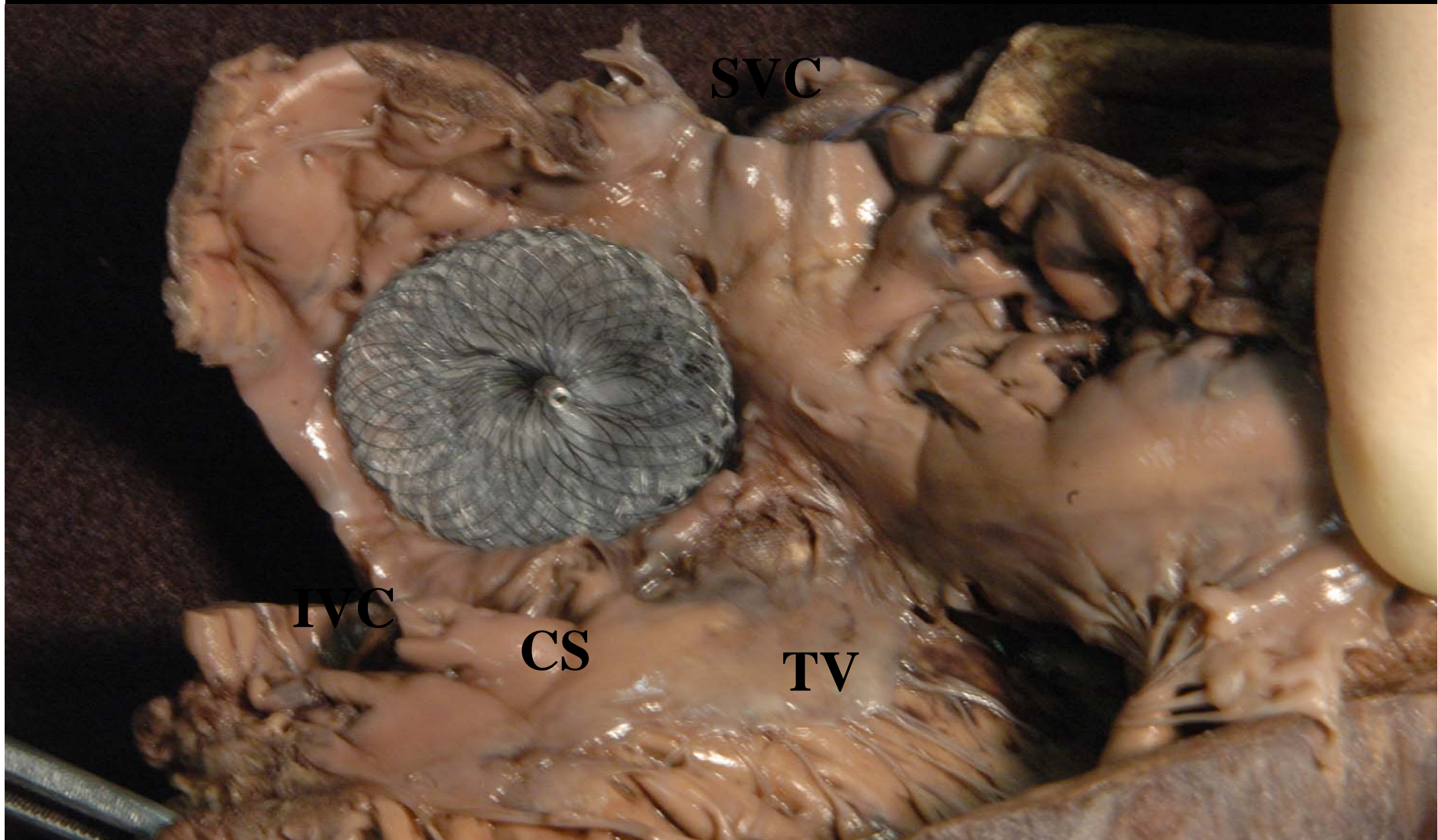
**TV**

# No aortic, and IVC rim

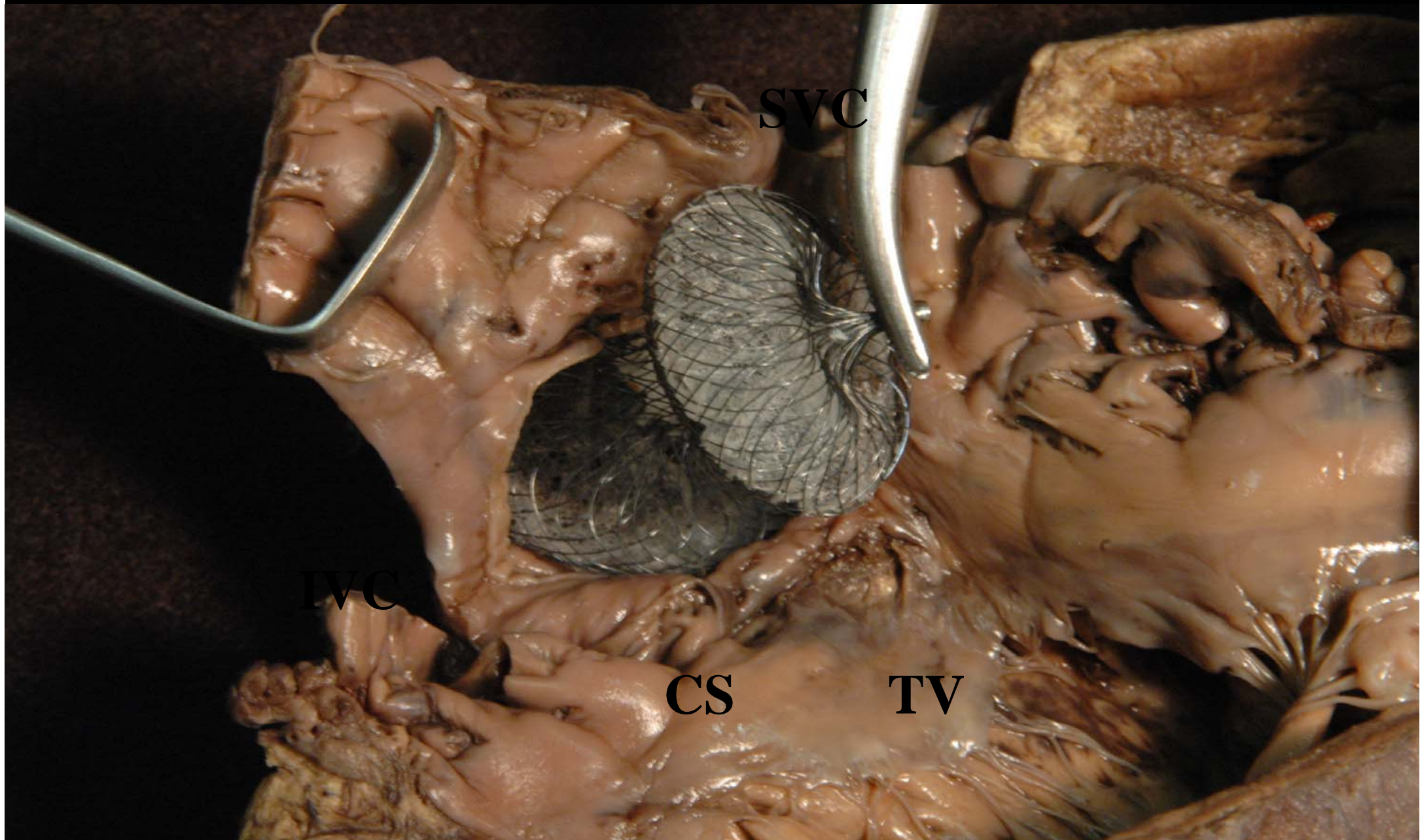




# No aortic, and IVC rim



**No aortic, and IVC rim**



**Sinus venosus type ASD**

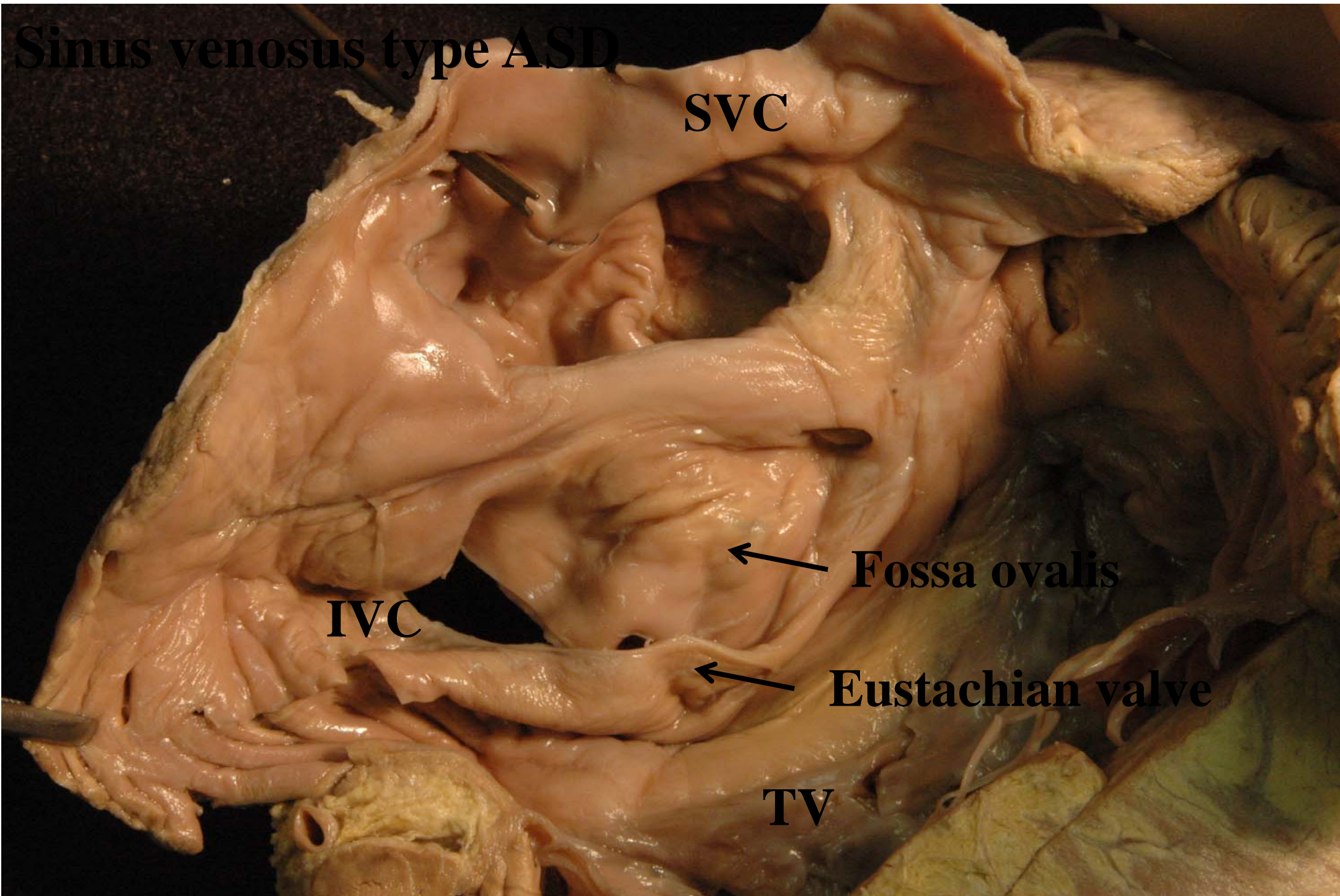
**SVC**

**IVC**

**Fossa ovalis**

**Eustachian valve**

**TV**



PHILIPS

4179

10/18/2010

07:19:23PM

TIS0.1

MI 0.4

35141920101018

T.W.M.U

X7-2t/TWMU 3DTEE

FR 6Hz

4.5cm

2:33:26

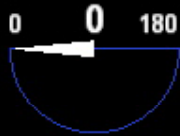
M4

Live 3D

3D 52%

3D 50dB

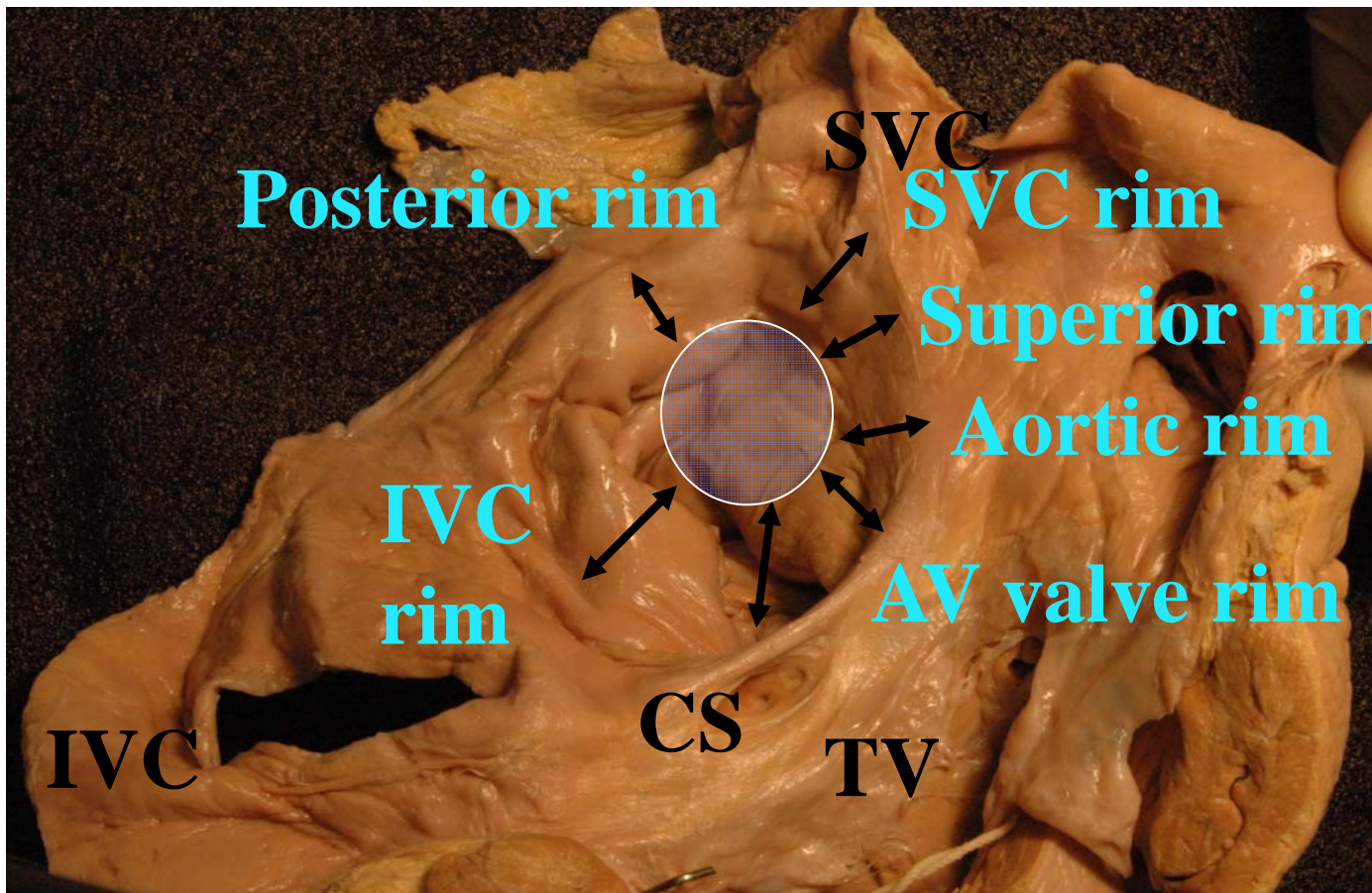
Gen



PAT T: 37.0C  
TEE T < 37.0C

# Conclusions

Imaging is important in percutaneous closure of ASD, esp with insufficient rims.



- Aortic rim: can be absent.
- Superior rim: 0:???
- 1-4 mm: borderline.
- SVC rim: no rim, no!
- Posterior rim: 1-4 mm is borderline. No rim, no!
- IVC rim: wide angle no rim, no!
- CS, AV valve rims: usually require >5 mm