



**Dipartimento Cardiologico A. De Gasperis
Azienda Ospedaliera Niguarda Ca' Granda - Milano**

Analisi sequenziale nelle cardiopatie congenite complesse

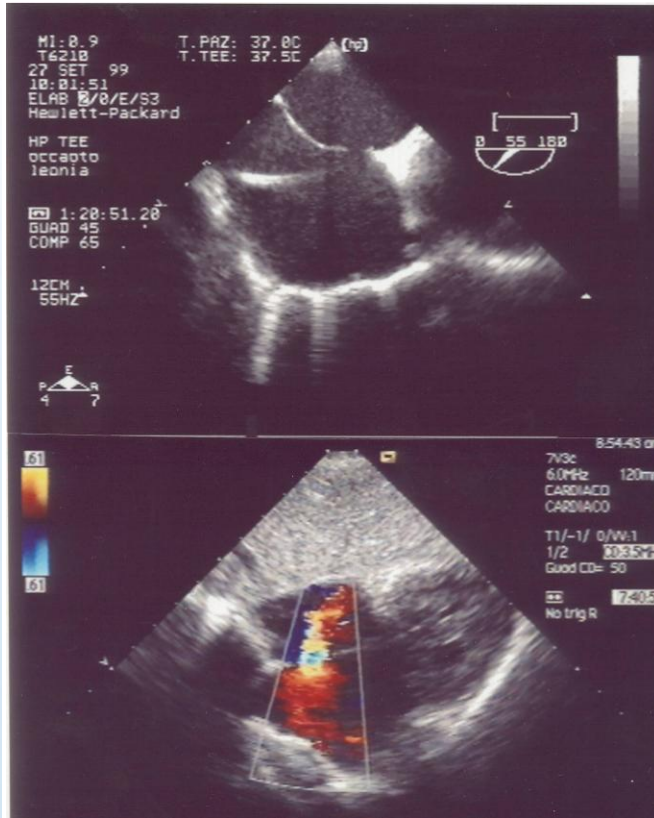
Gabriele Vignati

Congresso di Ecocardiografia

Milano 29 ottobre 2008

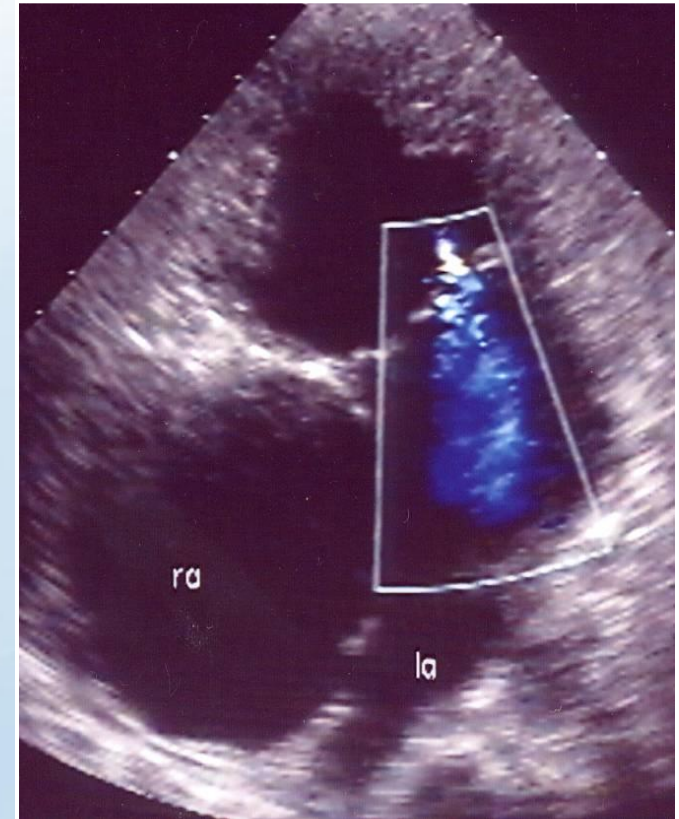


Incidenza: 7-8 per 1000



difetto interatriale

Miscellanea
di
malformazioni



atresia della tricuspide



Classificazione cardiopatie congenite

- **15-20% forme minori**
- **45-60% moderata complessità**
- **15-20% forme complesse**



Cardiopatie complesse

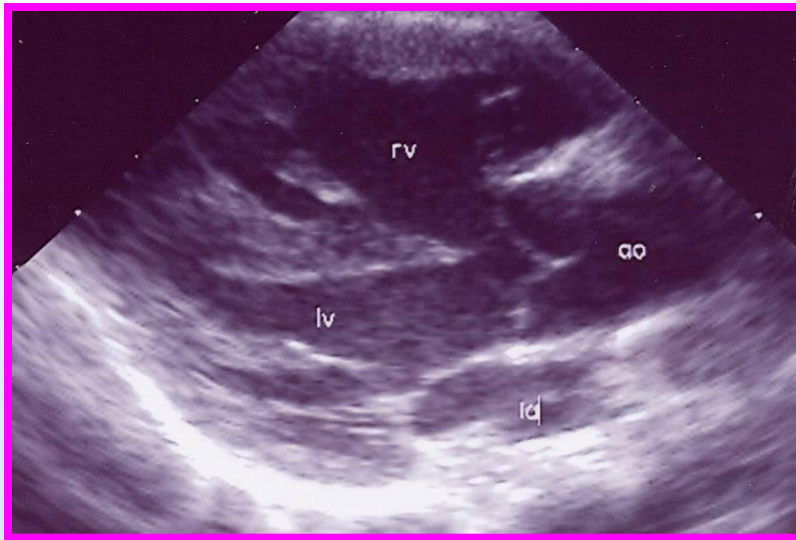
Elementi caratterizzanti

- **Associazione di più anomalie strutturali**
- **Modificazioni sostanziali dell'emdinamica**

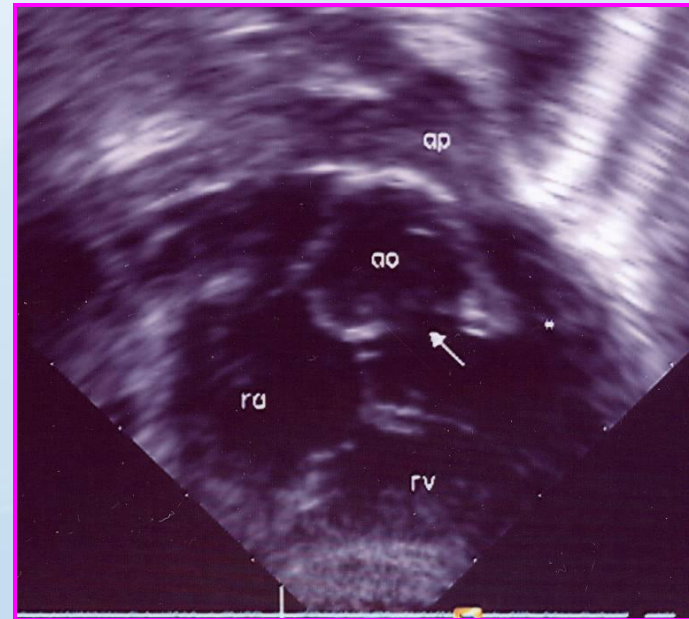


Cardiopatie complesse

Associazione di più difetti anatomici



Tetralogia di Fallot





Analisi sequenziale

- **Modo standardizzato di analisi del cuore che consente la diagnosi delle varie lesioni sia che esse siano conosciute o meno**
- **Suddivisione del cuore in tre segmenti: atri, ventricoli, grandi arterie**

Van Praagh R 1972

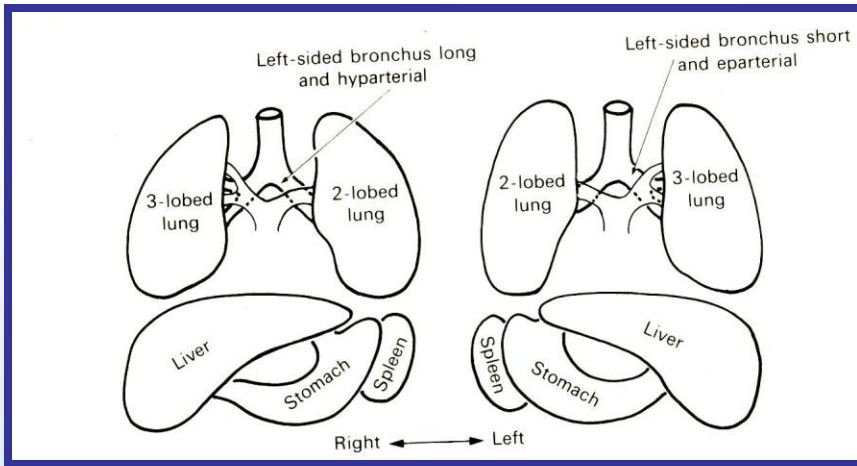


Analisi sequenziale

- Definizione della posizione degli atri o “situs”
- Definizione dei rapporti tra atri e ventricoli e tra ventricoli e grandi arterie in base alla:
 - morfologia dei ventricoli
 - modi di connessione tra i vari segmenti
- Analisi delle anomalie associate compresa la posizione del cuore nel torace



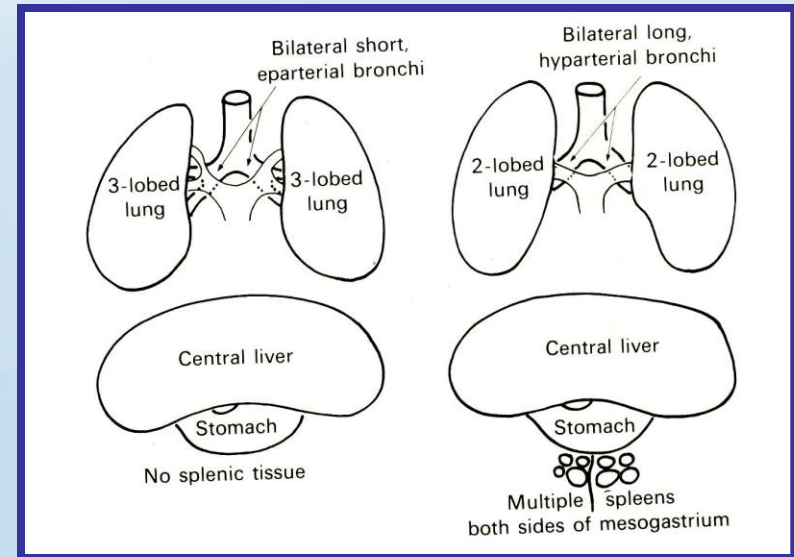
Sito viscerale



- solitus
- inversus
- ambigus

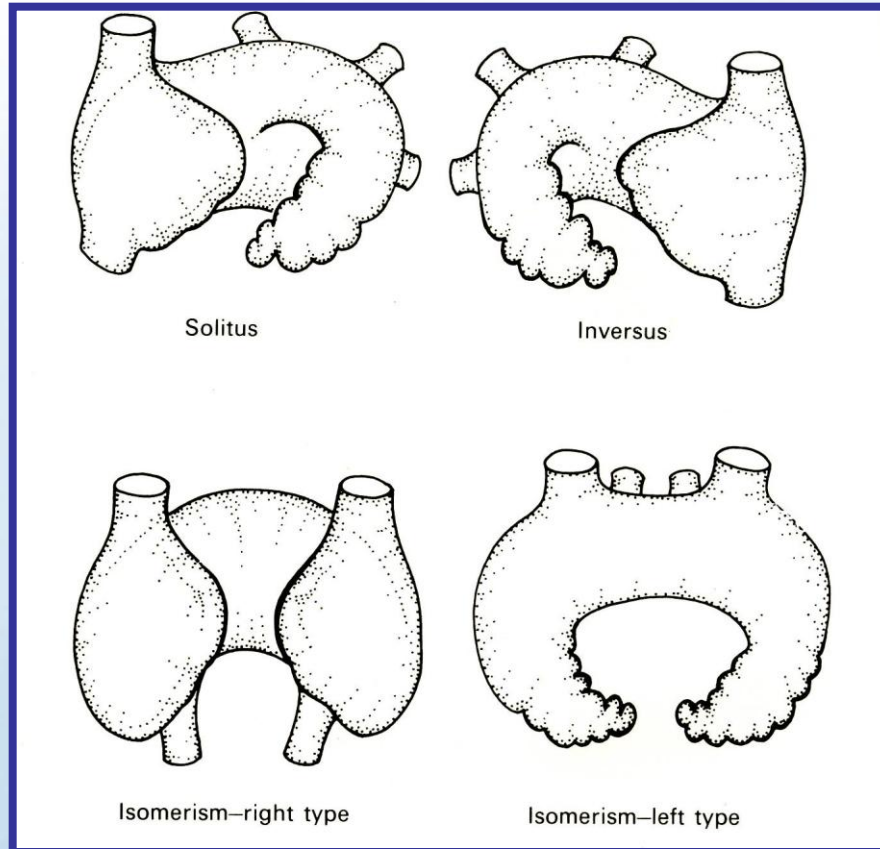
•Bronchi

•Atri





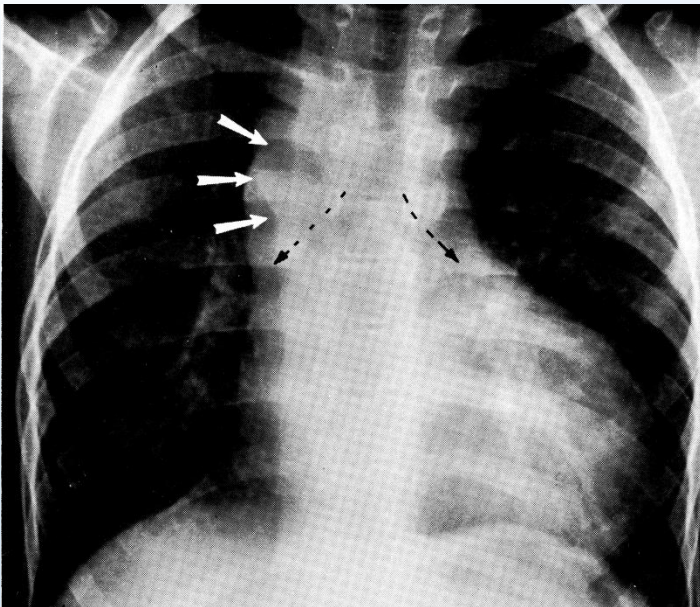
Sito atriale



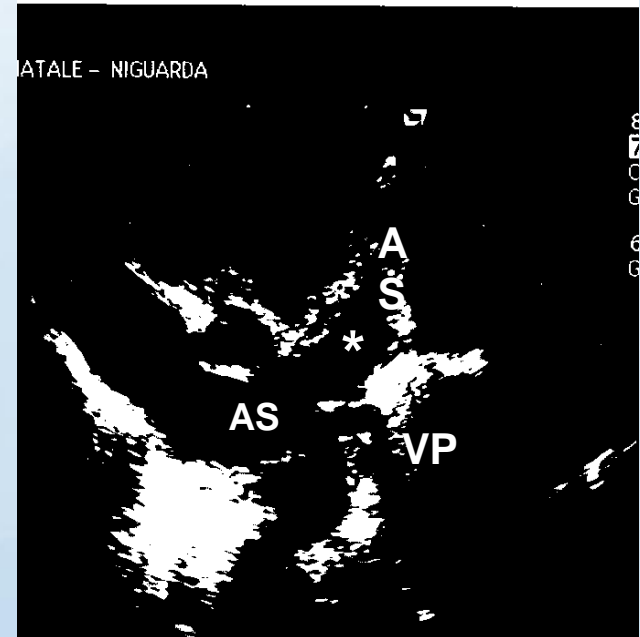


Come determinare il sito?

Rx torace

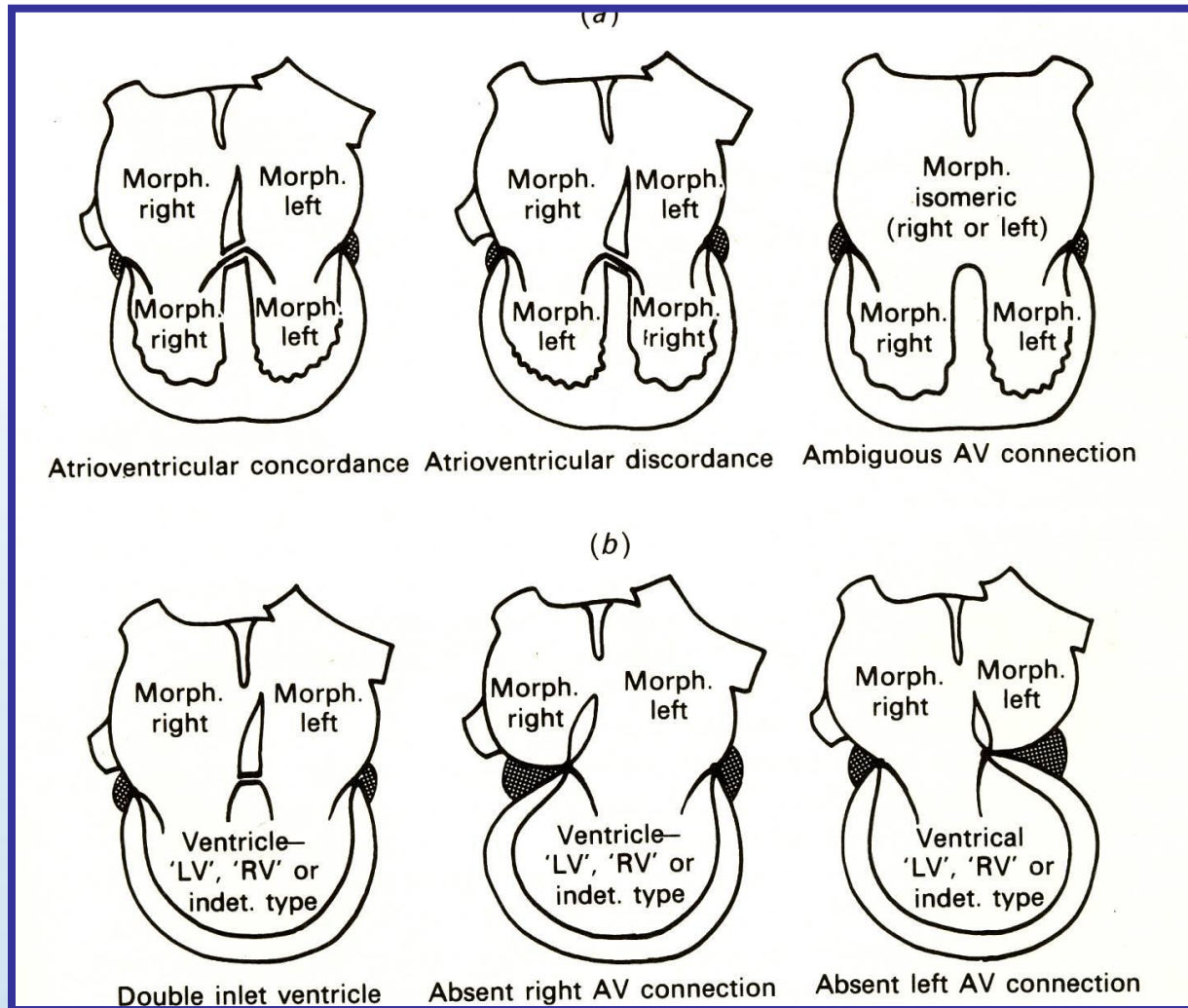


Eco





Connessioni Atrio-Ventricolari

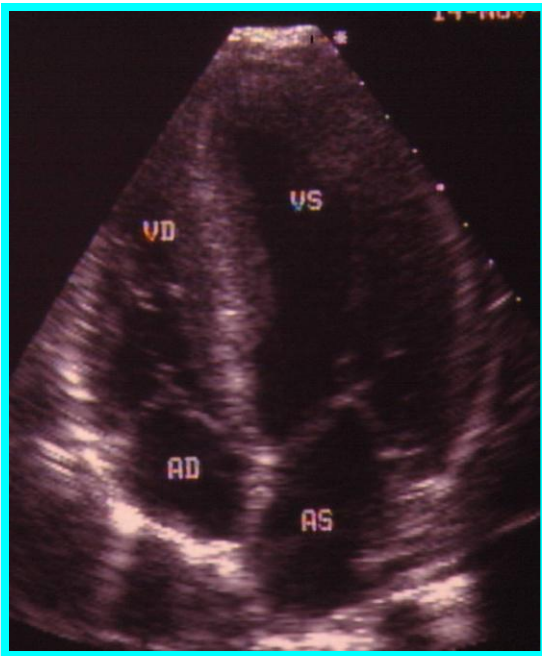


•tipo

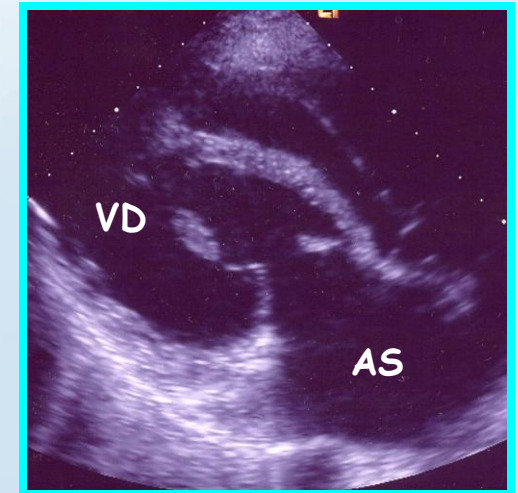
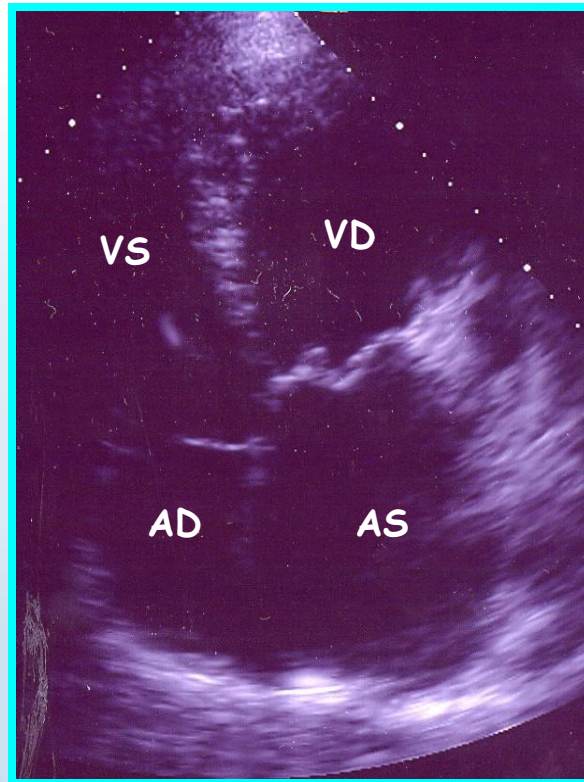
•modo



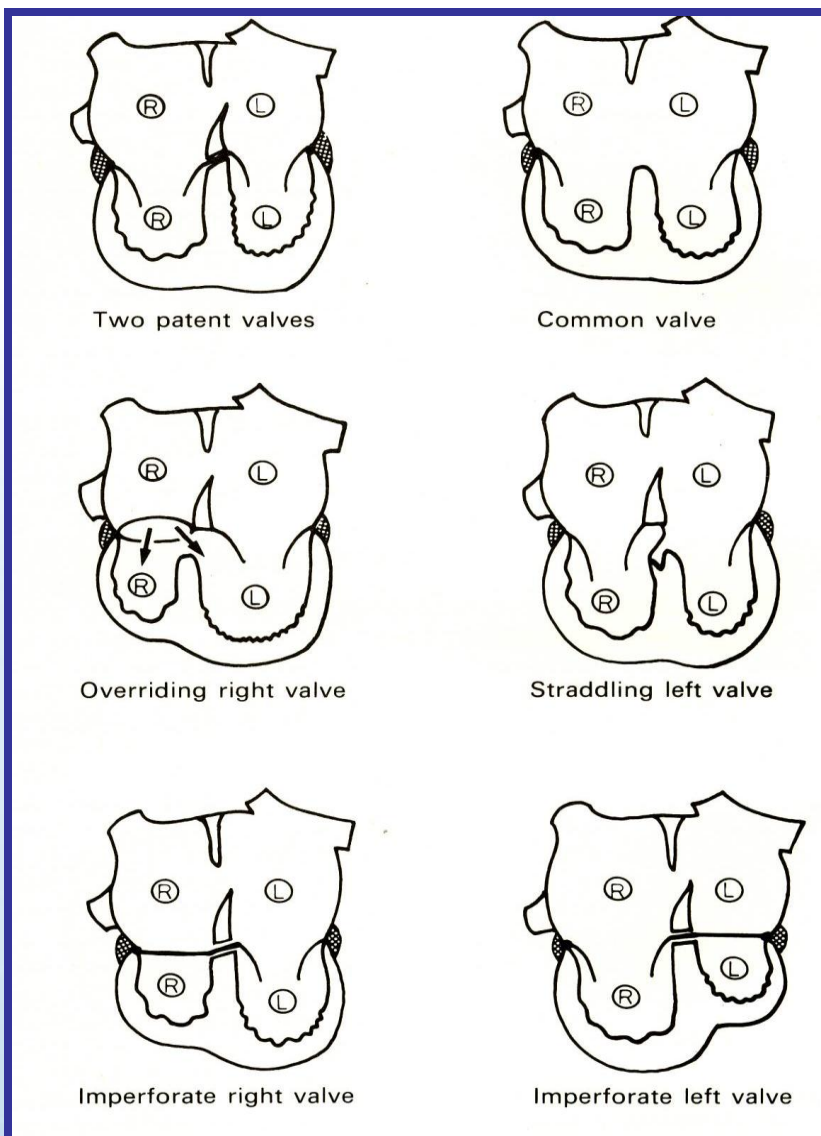
Connessioni atrio-ventricolari



concordante



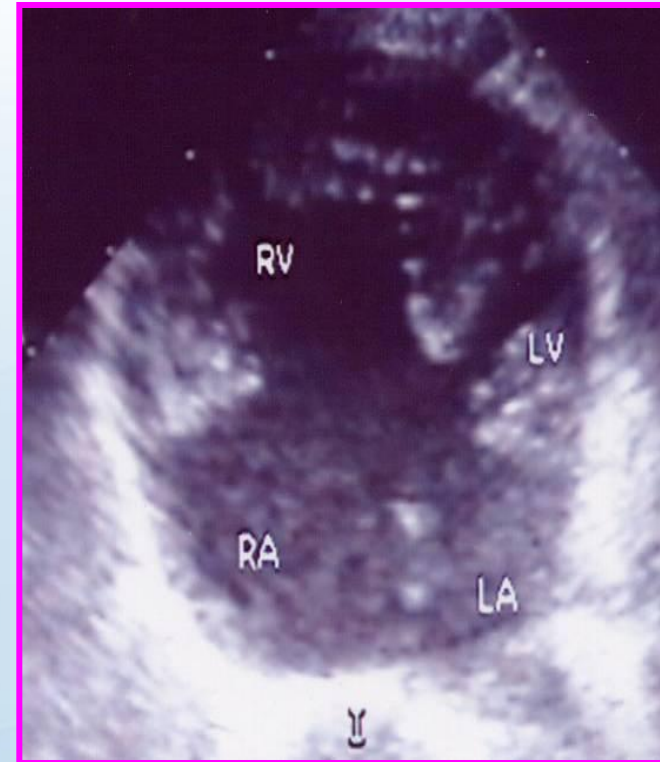
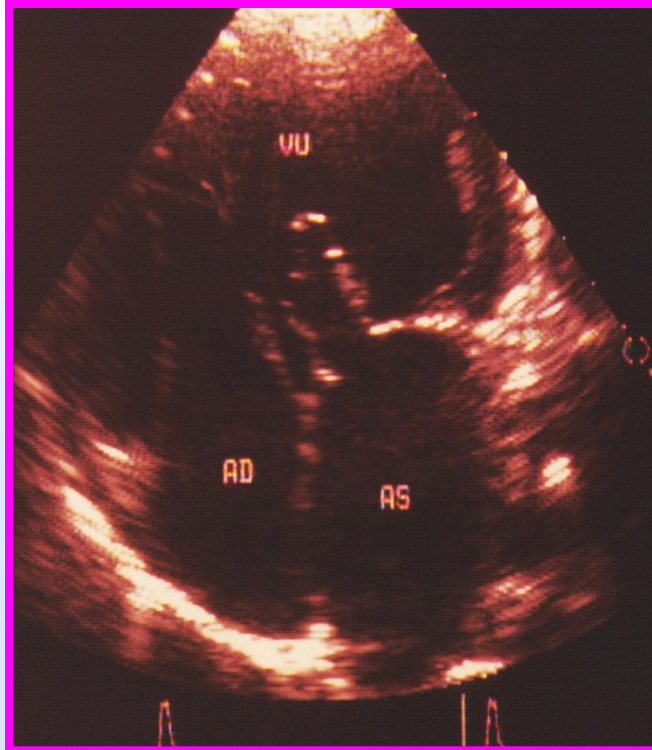
discordante



Modi di connessione



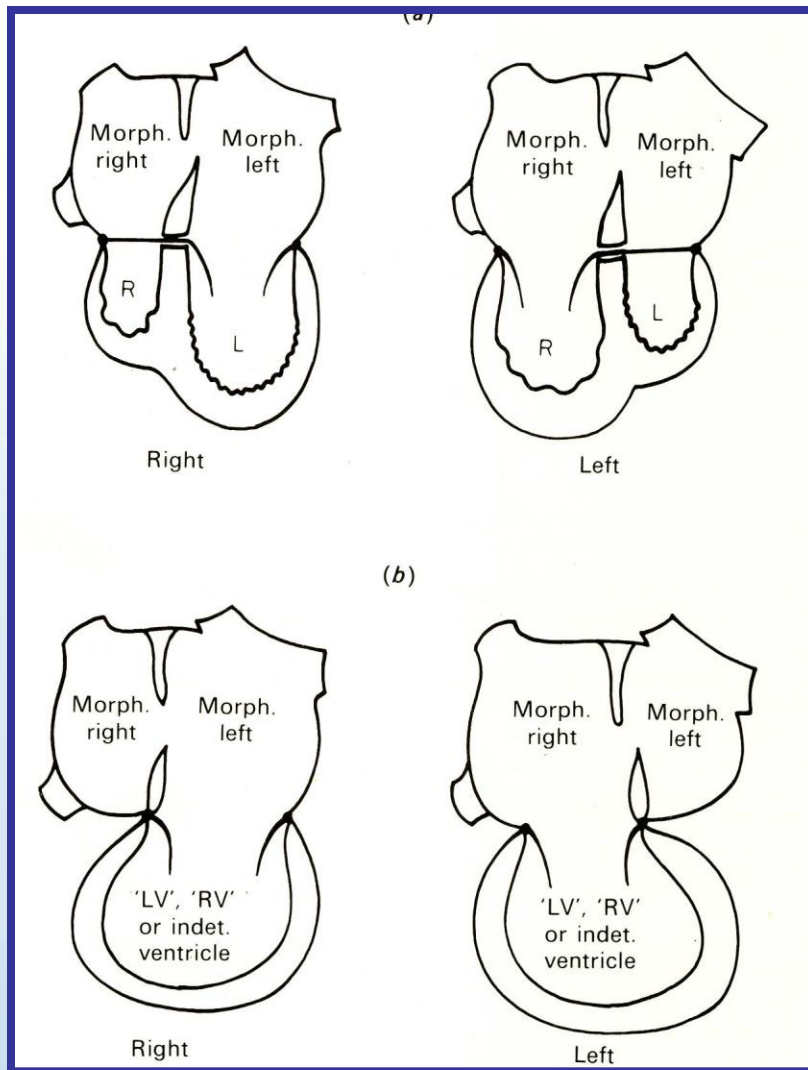
Modi di connessione

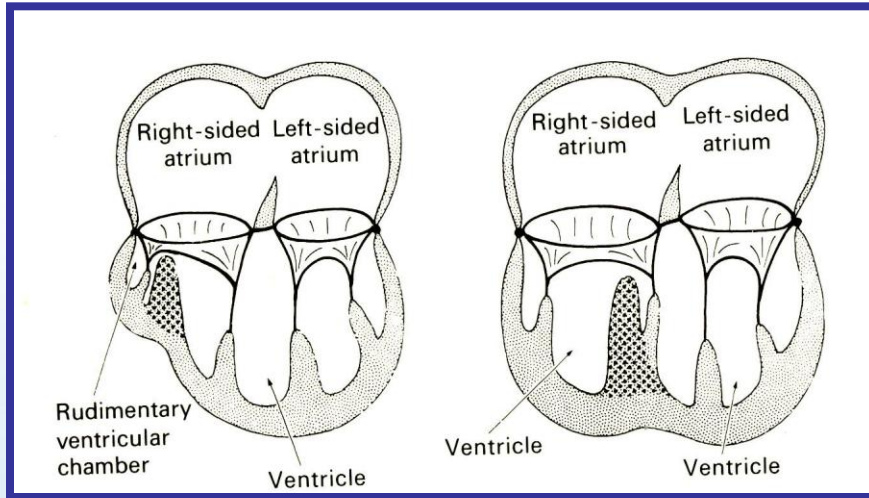




Assente connessione

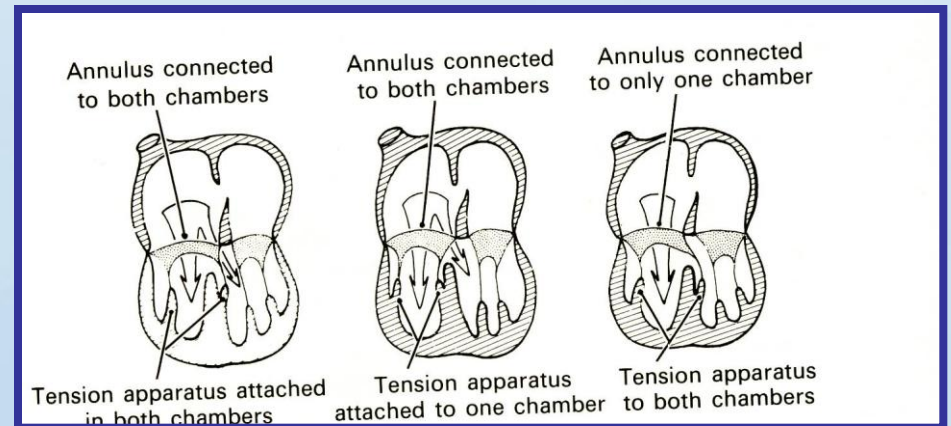
- Valvola imperforata
- Valvola assente





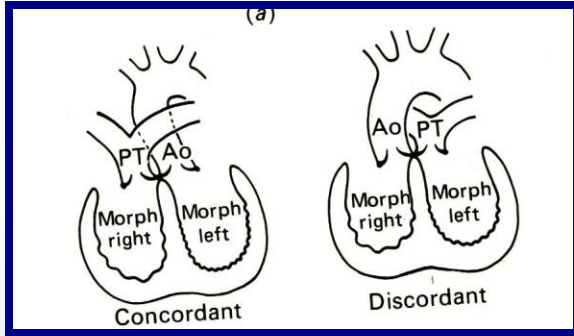
- **Straddling**

- **Overriding**

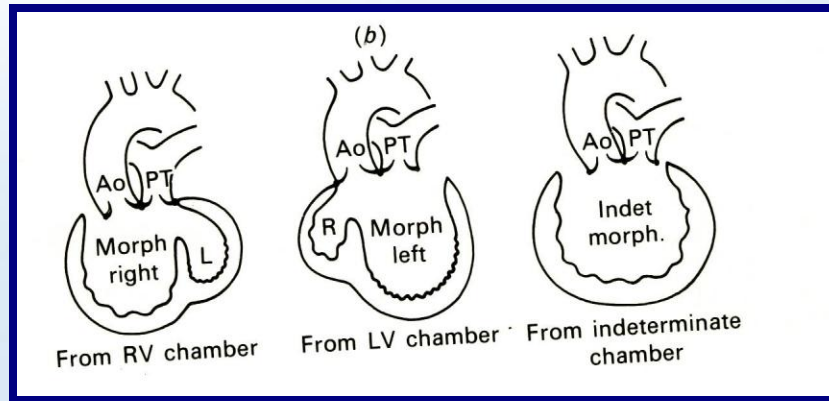




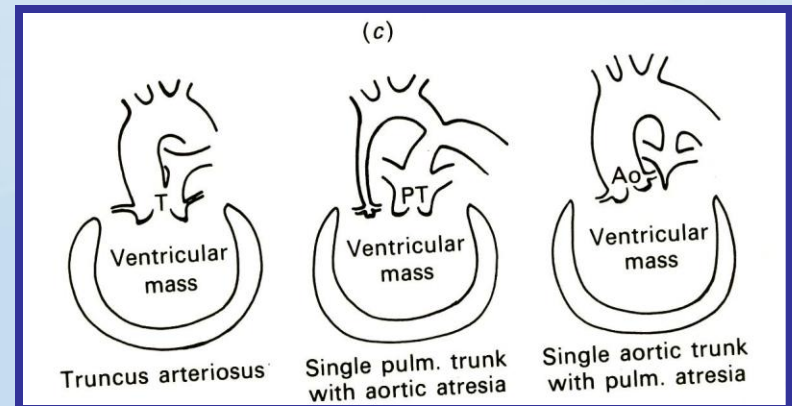
Connessioni ventricolo-arteriose



tipo

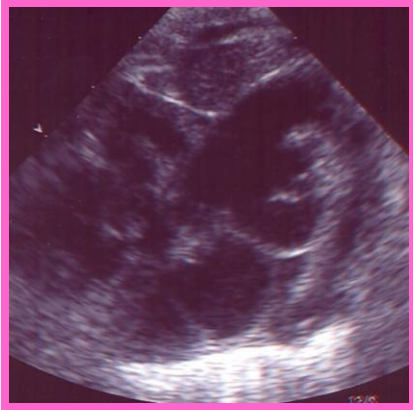


modo

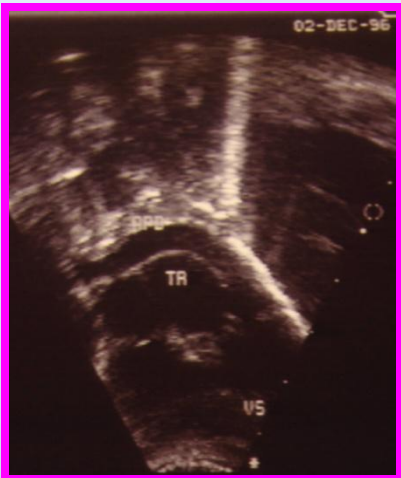




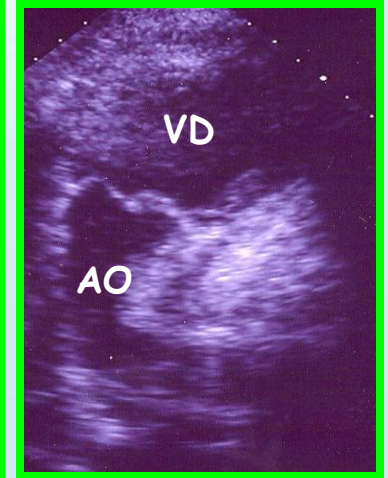
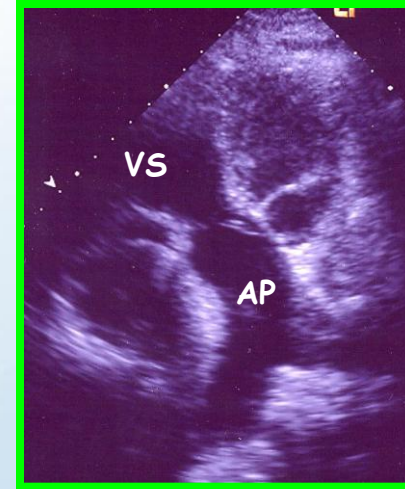
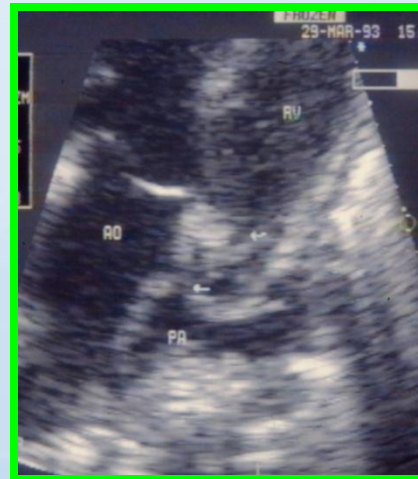
Connessioni ventricolo-arteriose



Truncus



Atresia PO



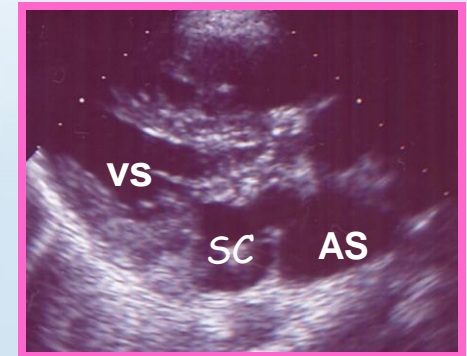
TGA



Anomalie ritorni venosi sistemici

Senza ripercussioni emodinamiche

- Cava sup. sin. in seno coronarico
- Continuazione azygos cava inf.
- Assente cava sup. dx



Con ripercussioni emodinamiche

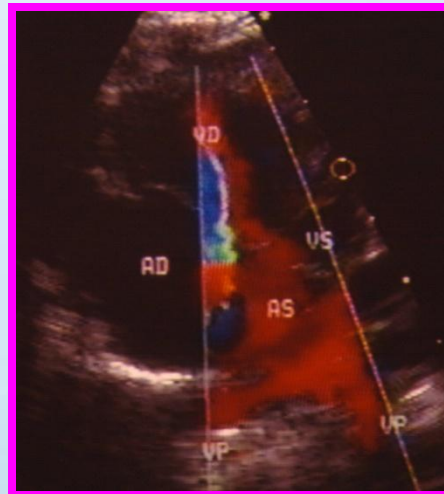
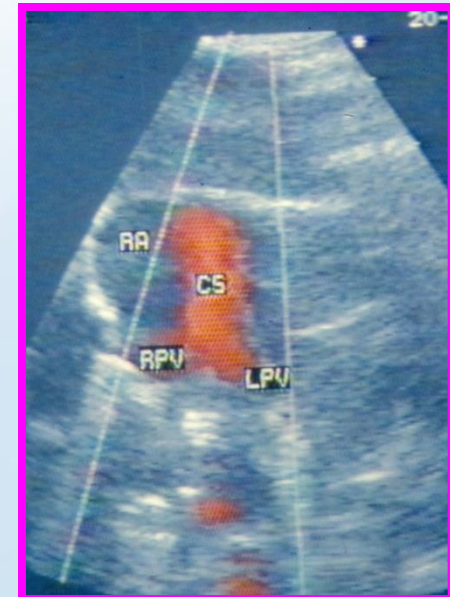
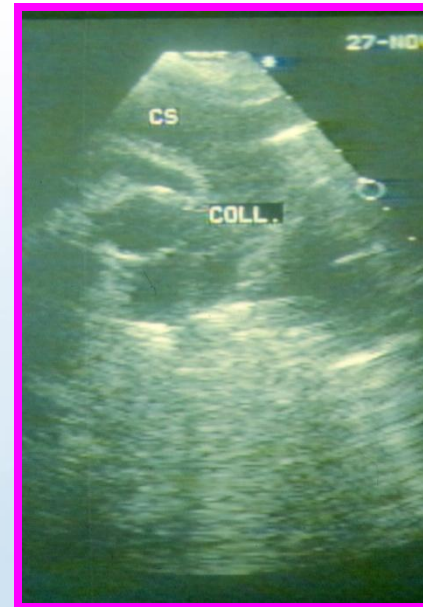
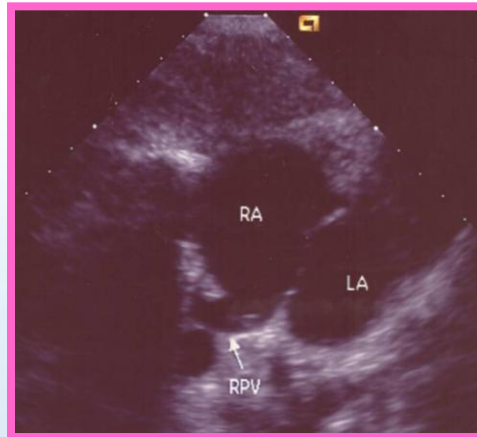
- Cava sup. sin. in atrio sin.



Anomalie ritorni venosi polmonari

-totali

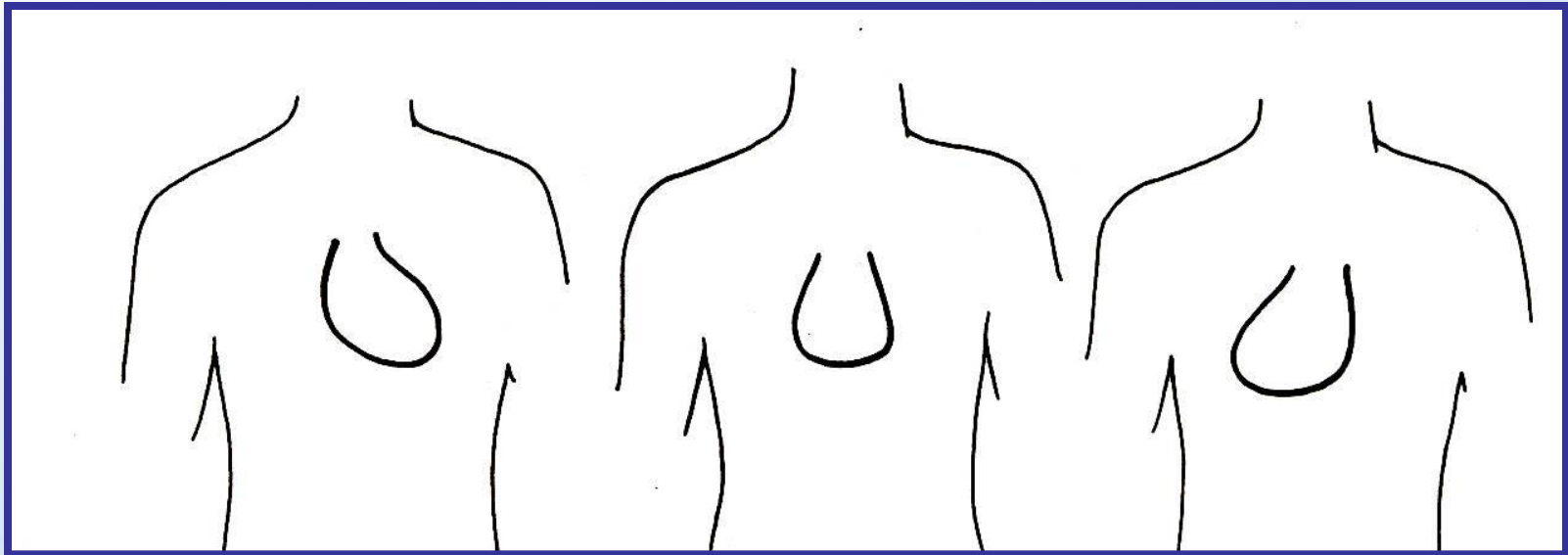
-parziali



-sopracardiaci
-infracardiaci
-sottodiaframmatici
-misti

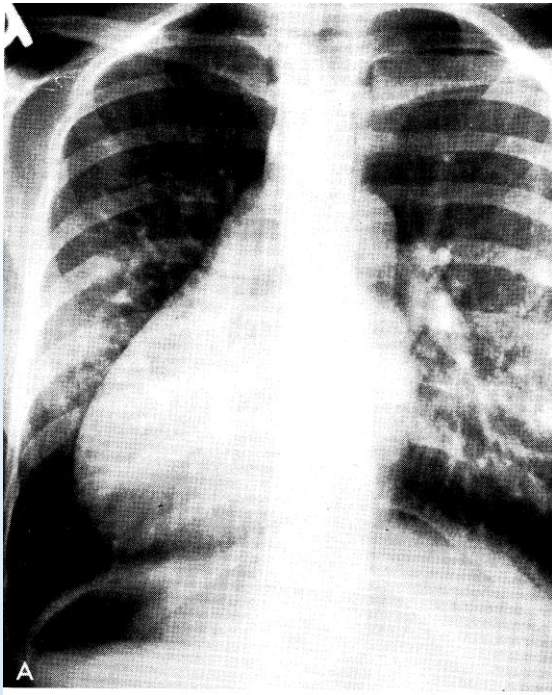


Posizione del cuore nel torace

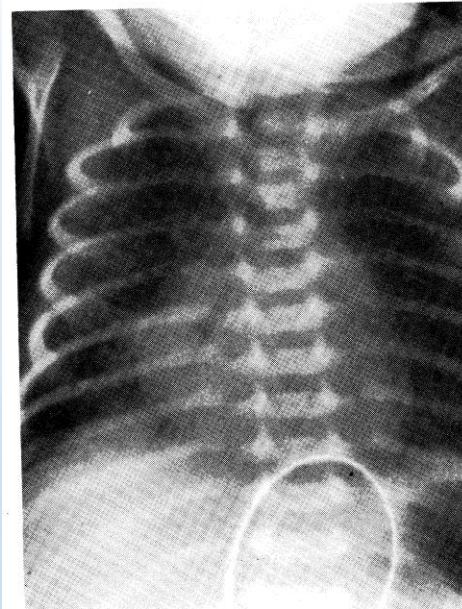




Posizione del cuore nel torace

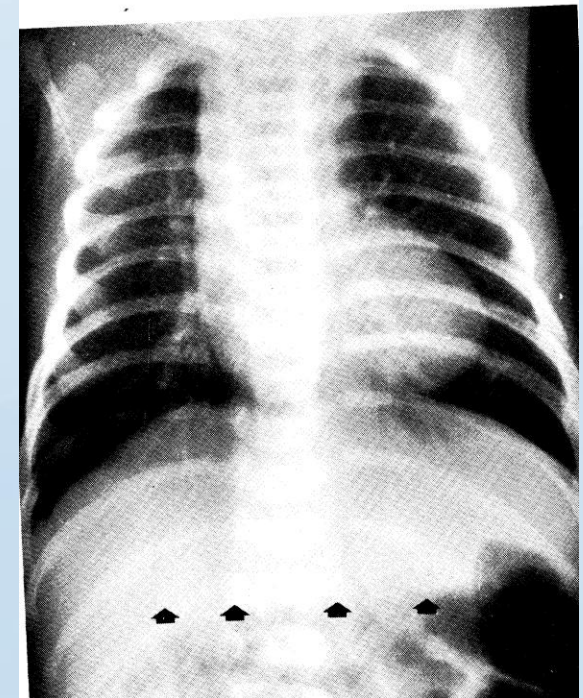


destrocardia



mesocardia

levocardia





Sindromi isomeriche

Isomerismo dx

- Anomalie ritorni venosi sist.
duplicità cava sup.
cava inf. a sin.
vene sovraepatiche in atro
- RVPAT
- Atrio unico
- Valvola AV comune
- VDDU, VU
- TGA
- Atresia polmonare

Isomerismo sin.

- Anomalie ritorni venosi sist.
continuazione azygos CI
- RVP polarizzati
- CAV sbilanciato (dominaza dx)
- Connessioni VA normali
- Ostruzioni efflusso sinistro



Conduzione esame ecocardiografico

SITO ATRIALE

ricerca auricola sin.
4 CA,
PS asse breve

RAPPORTI AV

tipo e modi
4CA,
sottocostale

RAPPORTI VA

tipo e modi
4CA,
sottocost,
PS asse breve
Sovrasternale

RITORNI VENOSI

-sistemici: sottocostale
soprasternale
-polmonari: 4CA
sottocostale
soprasternale

ANOMALIE ASSOCIATE

difetti settali
patologie valvolari
ostruzione agli efflussi
dotto arterioso pervio



Conclusioni

Utilizzando l'approccio sequenziale anche le cardiopatie più rare e bizzarre possono essere indagate correttamente

