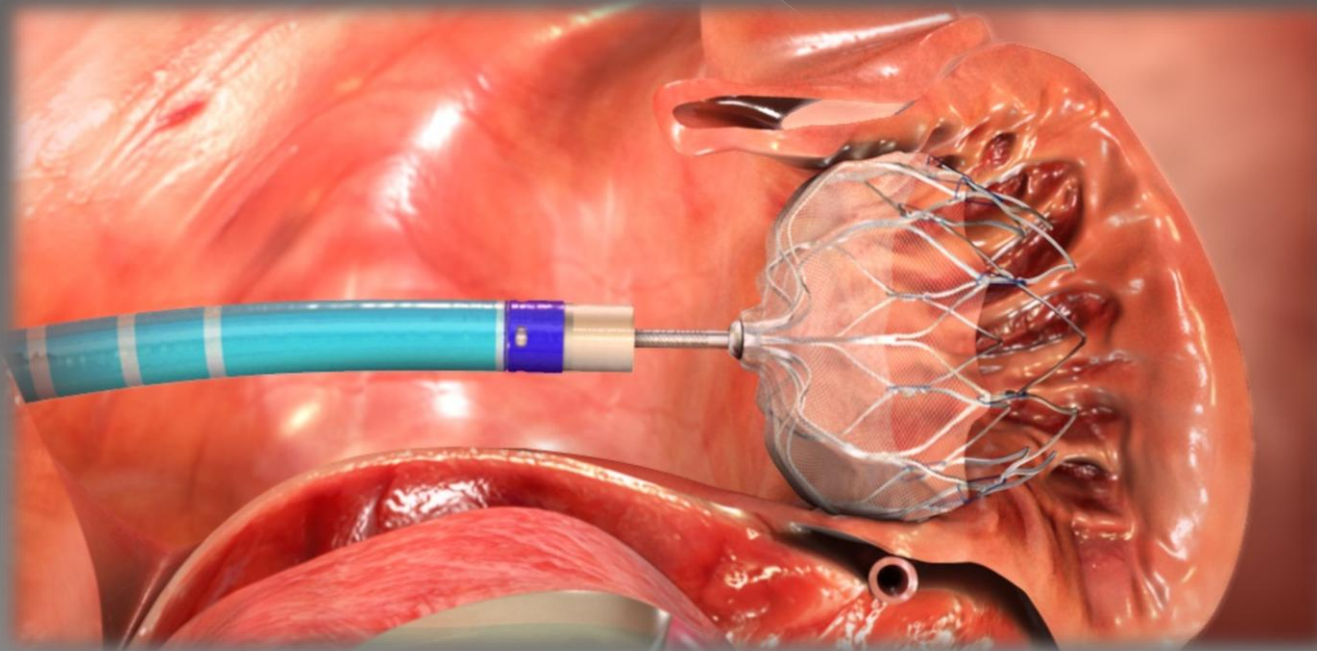# Nursing Management on
Left Atrial Appendage Closure (LAAO)

Outlines

- Introduction
- Inclusion and exclusion criteria of LAAO
- Nursing management on
  - Pre-operation
  - Intra-operation
  - Post-operation
- Conclusion
- Discussion

心房顫動 與 中風

Prevalence of stroke

- AF ~5 times risk than normal
- >90% thrombus in LAA → >87% strokes
- >1,000,000 deaths/ year in China
(Sino-MON-ICA-Beijing Study 1984-2004)
- ↑10mmHg in SBP
hazard ratio for stroke → 3.4 Asian
→1.22 UK

Strategies on stroke prevention

- Surgical approach

Surgical obliteration

Thoracoscopic extracardiac closure

Strategies on stroke prevention

➤ Medication

- Clopidgrel-Aspirin
- Novel oral anti-coagulant (NOAC)
  Rivaroban, Dabigatran etc.
- Warfarin

Indication of LAAO

(ESC guideline: class IIb, level B)

➤ Poor drug/ food compliance
➤ Contraindications for long term anti-coagulation therapy
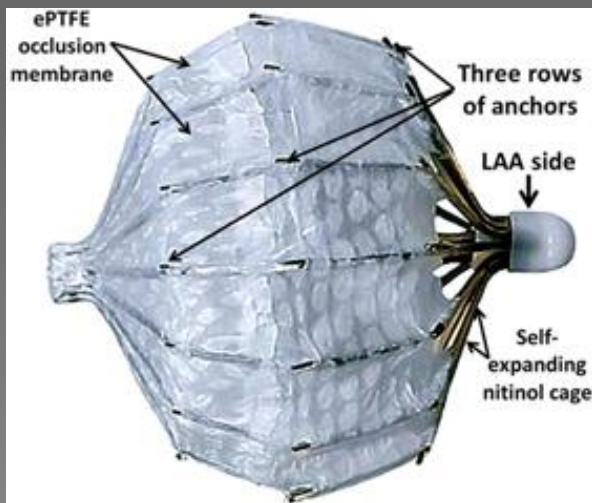• Absolute
• Relative

Indication of LAAO

- ➢ High risk of Thromboembolism
  - non-rheumatic AF >3 months
  - congestive heart failure
  - low LV ejection fraction
  - diabetes mellitus
  - hypertension
  - >65 years
  - coronary artery disease
  - history of TIA or stroke
  - moderate or dense SEC or ≤20 cm/sec blood flow velocity within LAA by TEE

Possible exclusion criteria of LAAO

- LA or LAA thrombus
- LA diameter >6.5cm
- Complex aortic plaque
- Mitral or aortic stenosis or regurgitation
- Acute coronary syndrome
- <2 months of stroke
- Symptomatic carotid disease

Types of LAAO

- PLAATO
- WATCHMAN
- Amplatzer cardiac plug (ACP)

Pre-op nursing management

➢ History taking
- family history
- past medical status
- allergic history (esp. for contrast)

Assessment for risk of stroke

➢ CHADS$_2$ score

Risk factor	Points
Recent CHF	1
Hypertension	1
Age ≥75 years	1
Diabetes mellitus	1
History of Stroke or TIA	2

Assessment for risk of stroke

➤ $CHA_2DS_2VAS_c$ score

CHF or LVEF ≤40%	1
Hypertension	1
Age ≥75 years	2
Diabetes mellitus	1
Stroke/ TIA/ thromboembolism	2
Vascular disease	1
Age 65-74 years	1
Female	1

Assessment for risk of bleeding

- : HAS-BLED score

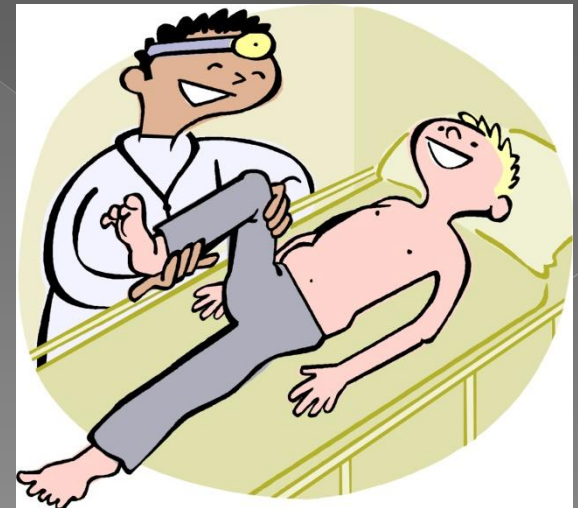| |
|---|
| **H**ypertension |
| **A**bnormal liver and renal function |
| **S**troke |
| **B**leeding |
| **L**iable INR |
| **E**lderly |
| **D**rug or alcohol |

Physical assessment

➢ NIHSS score by occupational therapist
➢ anaesthetist assessment for GA

Physical examination

- BW/ BH
- LMP if any
- Check pedal pulse
- Blood tests
- +/- LMWH for bridging
- TEE
- TTE
- ECG
- CXR
- Medication

Orientation program

➢ allay fear
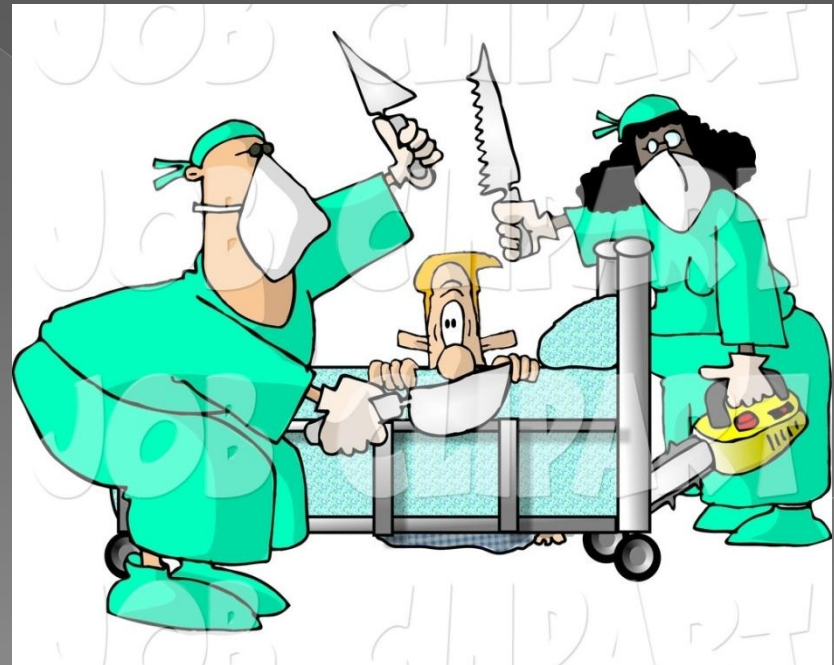➢ gain cooperation
➢ clarify misunderstanding
➢ consent

Preparation on the date of procedure

- fasting
- set HB
- type screening and cross-matching
- INR monitoring (≤1.5)
- skin preparation
- foley insertion
- pre-medication
- reserve CCU bed for post-op care

Intra-op nursing management

Preparation
- environment
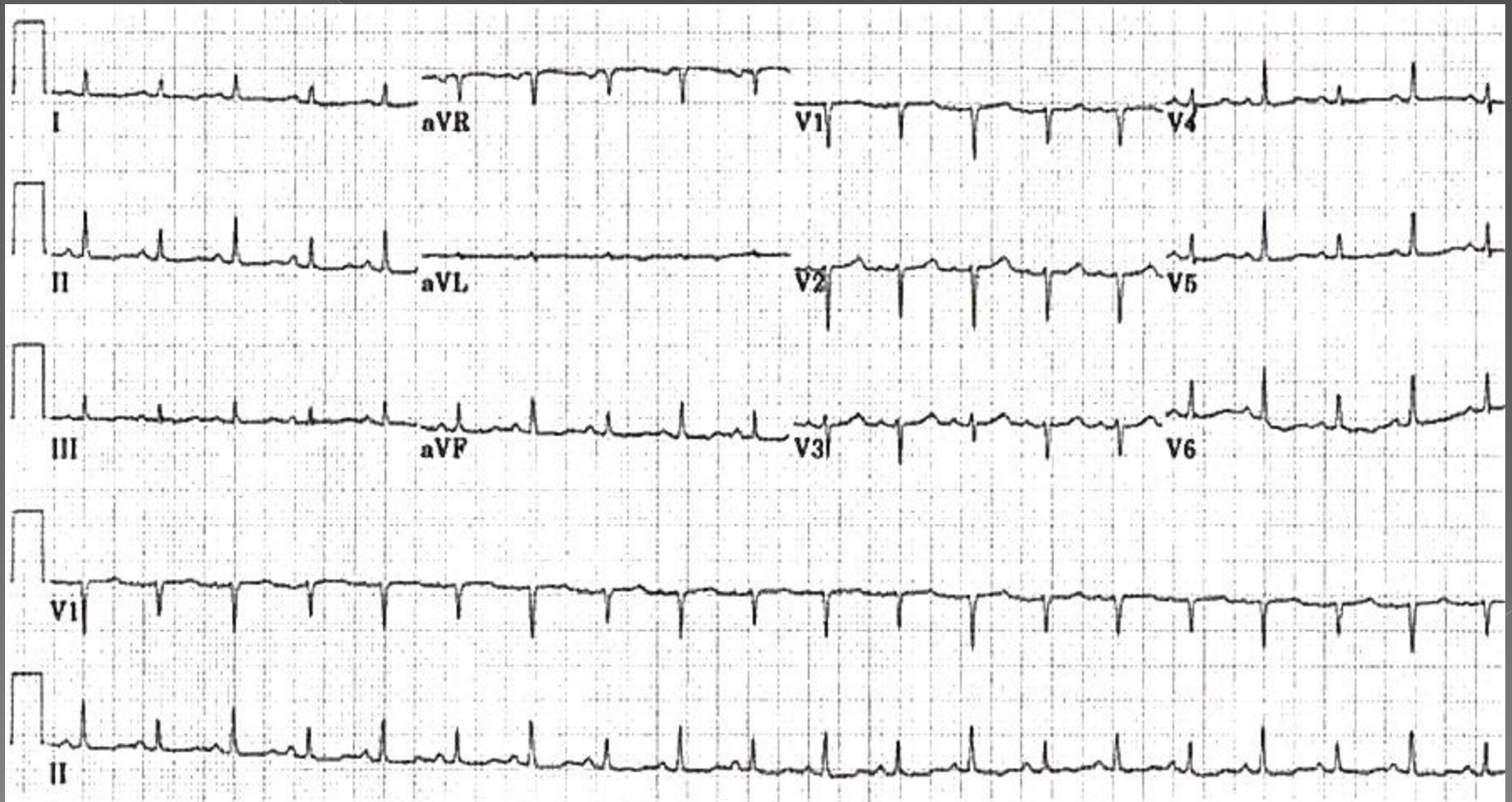- patient
- instruments
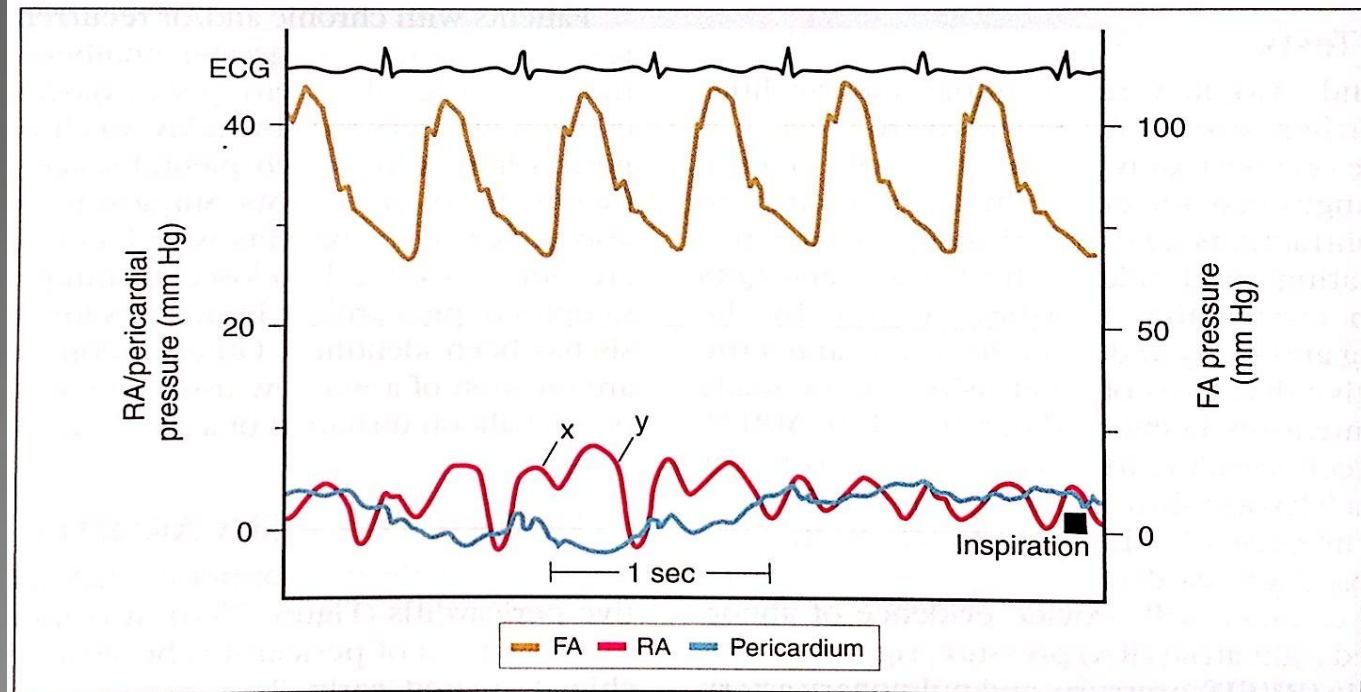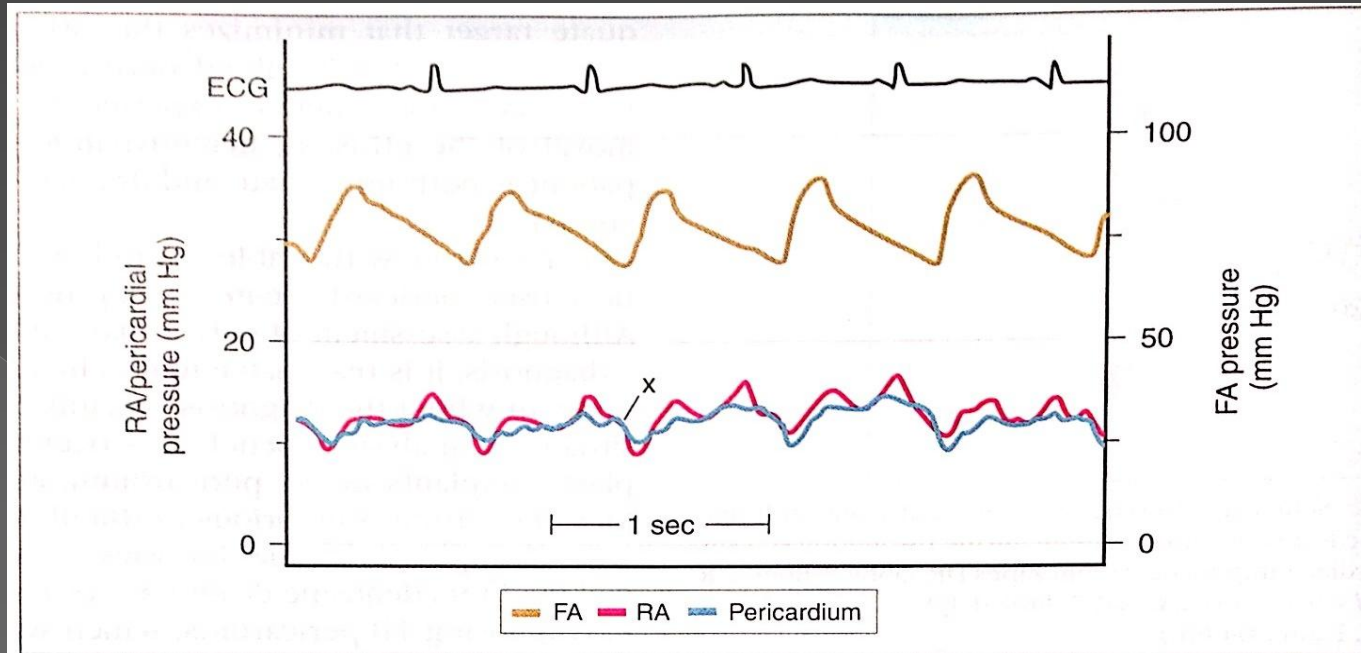
左心耳封堵術

手術簡介

左心耳封堵術 LAA3 05

Intra-op management

- Close monitoring of vital signs
- Observation for complications
  - Hemopericardium/ pericardial effusion/ tamponade/ rupture of LAA
  - Device/ air embolization
- Appropriate nursing actions for emergency
  - CPR/ arrangement for OHS
- Documentation
- Recovery care

ECG in massive PE

PE in RA pattern

Snare catheter

Post-op nursing management

- Continue vital and neurological signs monitoring
- Continue observation of complications
  - Stroke/ Thrombus formation
  - PE
  - GIB
  - Contrast-induced nephropathy
  - Periprosthetic leakage/ fistula

Post-op nursing management

➢ Wound management

➢ Follow up with TEE scheduled

➢ Post-operative Warfarin regimen

Conclusion

- ↓Risk of procedure with procedural modifications and experienced implanters

- Long term outcome for safety and efficacy without Warfarin

- Choice & duration of anti-platelet agents

- Suitability of higher risk groups

Thank you

Discussion