23. KONFERENCE ČESKÉ ASOCIACE AKUTNÍ KARDIOLOGIE

30. 11.–2. 12. 2025 | HOTEL THERMAL, KARLOVY VARY

ESC Guidelines 2025 – Perikarditidy

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FAKULTNÍ NEMOCNICE U SV. ANNY V BRNĚ

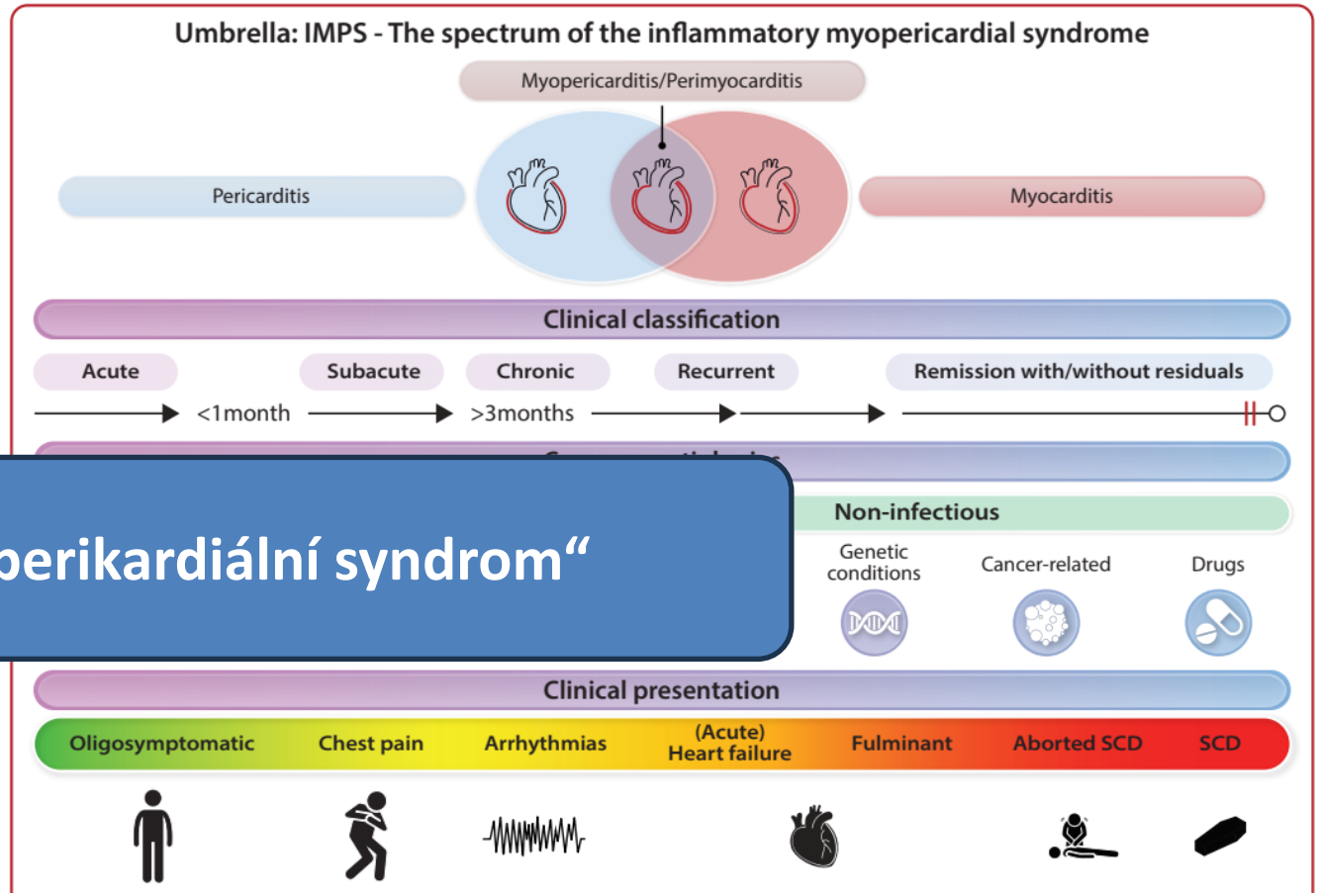
I. INTERNÍ KARDIOANGIOLOGICKÁ KLINIKA FNUSA A LF MU

Nová evidence – 2025 ESC Guidelines

2025 ESC Guidelines for the management of myocarditis and pericarditis

Developed by the task force for the management of myocarditis and pericarditis of the European Society of Cardiology (ESC)

Endorsed by the Association for European Paediatric and Congenital Cardiology (AEPC) and the European Association for Cardio-Thoracic Surgery (EACTS)



…pojem „zánětlivý myoperikardiální syndrom“

European Heart Journal (2025) **00**, 1–90
https://doi.org/10.1093/eurheartj/ehaf192

Nová diagnostická kritéria pro perikarditidu

Pericarditis
Recent or concomitant flu-like syndrome or gastroenteritis
Pleuritic/infarct-like chest pain
Right HF symptoms and signs of constriction
Fever
Pericardial rubs
C-reactive protein elevation
Pericardial effusion
Pleural effusion
Polyserositis
CMR imaging with pericardial oedema and/or LGE

	Pericarditis
Definite	Clinical presentation[b] with >1 additional criterion
Possible	Clinical presentation[b] with 1 additional criterion
Unlikely/rejected	Only clinical presentation[b] without additional criteria
Additional criteria beyond clinica	

	Pericarditis
Clinical[b]	Pericardial rubs
ECG[c]	PR depression, widespread ST-segment elevation
Biomarkers	C-reactive protein elevation
Imaging[d]	New or worsening pericardial effusion Pericardial oedema and/or LGE (CMR findings)

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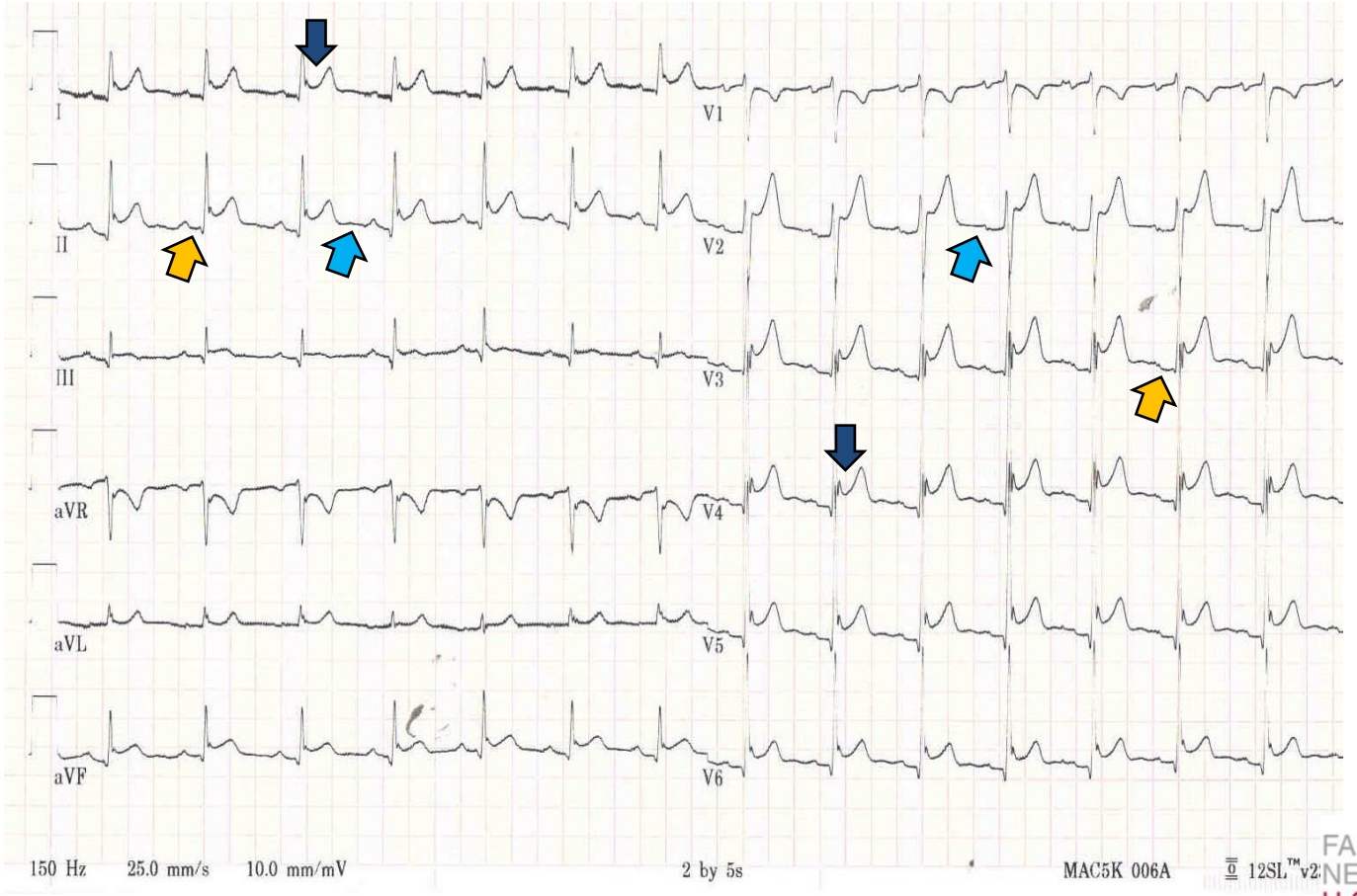
EKG u akutní perikarditidy

Fáze 1 - difuzní, konkavitou vzhůru obrácené elevace ST úseku, deprese PR úseku, Spodickovo znamení

Elevace ST úseků nesledují povodí koronárních tepen a na rozdíl od STEMI nejsou doprovázeny kontralaterálními depresemi.

Spodickovo znamení je klesající T-P úsek (od konce vlny T do začátku vlny P).



Etiologie perikarditid

3.4.2. Aetiology of pericarditis

The aetiology largely depends on the epidemiological background, patient population, and clinical setting.[1,10] Idiopathic or viral pericarditis is the most frequent aetiology in developed countries, ranging from 50% in inpatient settings to >80% in outpatient settings.[43–48] Tuberculosis (TB) is responsible for about 70% of all cases, especially in human immunodeficiency (HIV)-infected patients, in regions where the disease is endemic. An increasing number of cases are related to interventional procedures and surgery [post-cardiac injury syndrome (PCIS)] due to the increased number of procedures performed and the ageing population.[49] Other common causes include systemic inflammatory/autoimmune diseases and cancer (especially lung and breast cancer or lymphomas and

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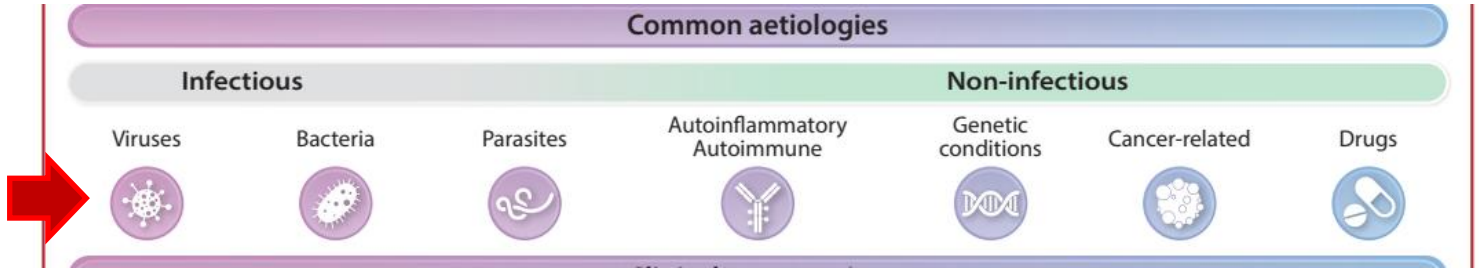

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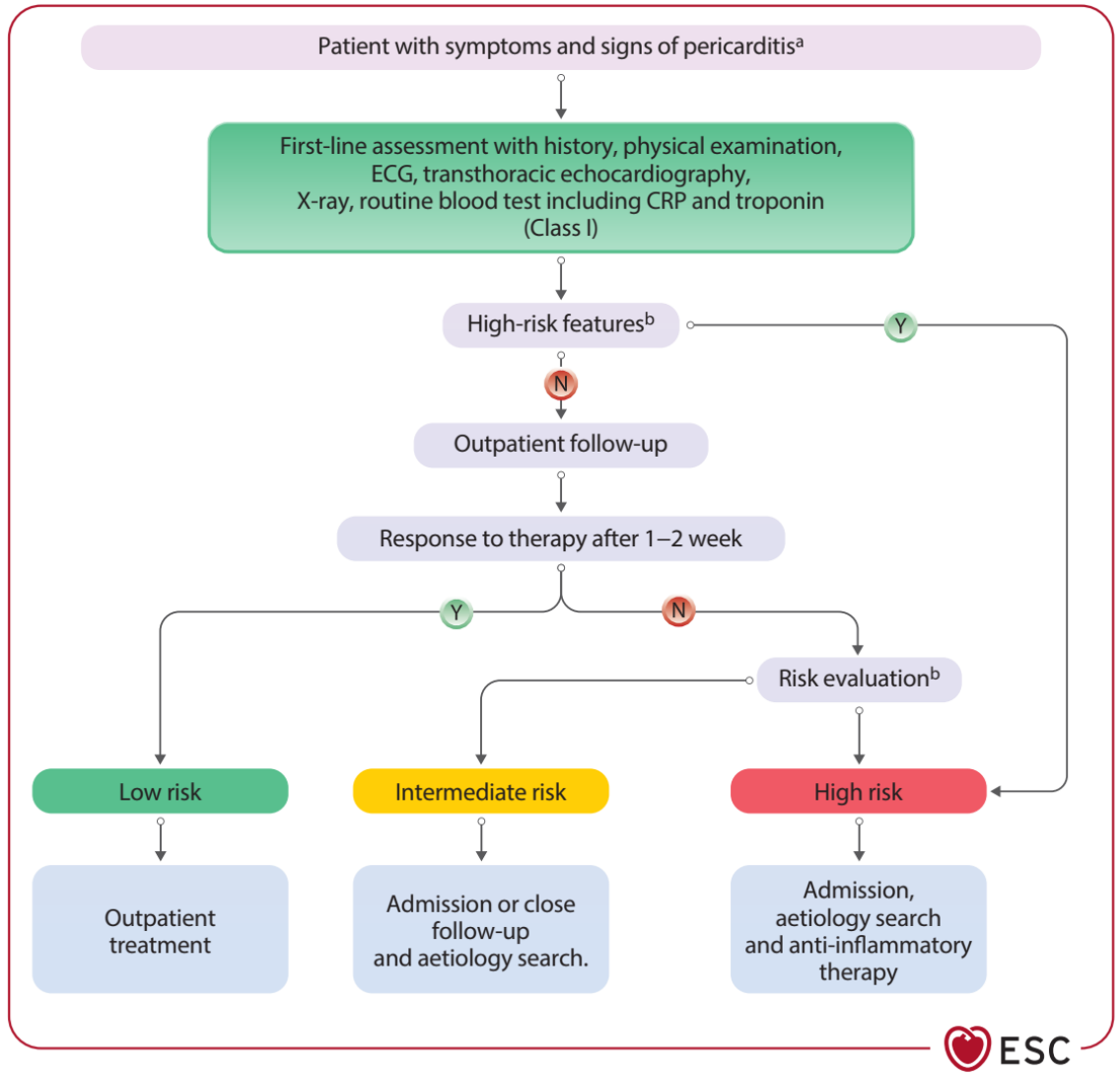
Onemocnění perikardu / perikardiální syndromy

Risk	High risk	Intermediate risk	Low risk
Pericarditis	• Signs and symptoms of cardiac tamponade • Fever (temperature >38°C) • Effusive–constrictive pericarditis • Failure of NSAID therapy • Incessant pericarditis	• Signs and symptoms of right HF	• Response to adequate therapy within 1–2 weeks
	Imaging criteria:	**Imaging criteria:**	**Imaging criteria:**
	• Large PEff (>20 mm end-diastole) • Cardiac tamponade • Extensive pericardial LGE on CMR	• Moderate–large PEff (10–20 mm end-diastole) • Constrictive physiology regardless of the size of the effusion	• Absence or mild PEff • Absence of pericardial LGE on CMR

Diagnosticko-terapeutický algoritmus u perikarditid



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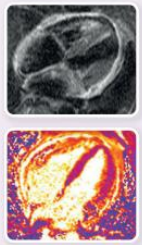
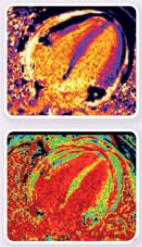
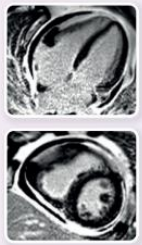
	Imaging criteria:
	• Large PEff (>20 mm end-diastole) • Cardiac tamponade • Extensive pericardial LGE on CMR

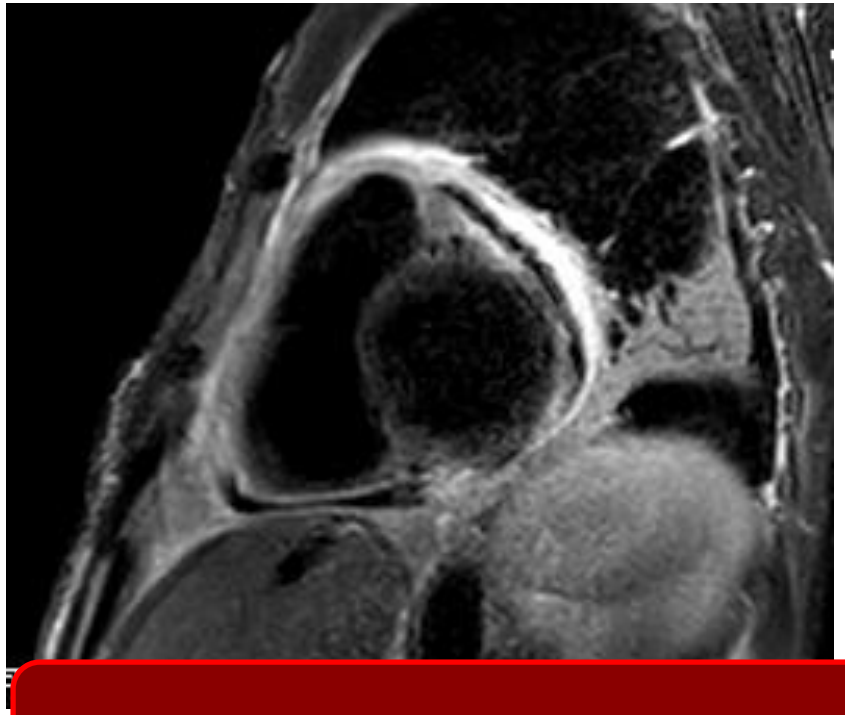
Hospital admission is recommended for patients with high-risk pericarditis[d] for monitoring and treatment.[105,130]	I	B

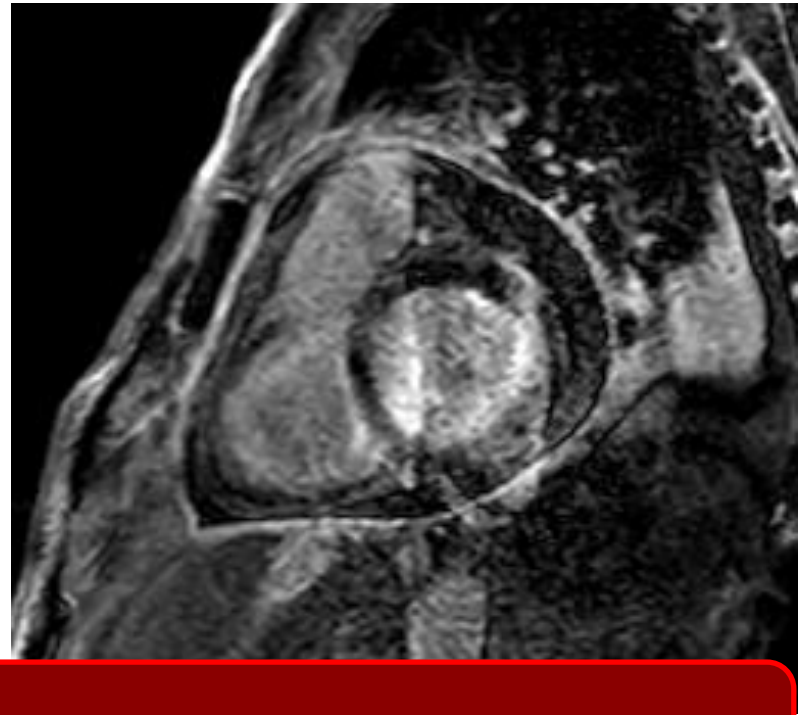
MRI diagnostika perikarditid

Criterion	Methods	Example images and pathology	Parameters for reporting: For myocarditis	Parameters for reporting: For pericardial involvement
T2-based criterion	T2-weighted imaging or T2 mapping	Pericardial oedema 		• High signal intensity of the pericardium in T2-mapping or T2-weighted imaging
T1-based criterion	Native T1 mapping/ post-contrast T1 mapping (ECV)/ T1-weighted imaging	Pericardial oedema/ diffuse fibrosis 		• High signal intensity of the pericardium in T1-mapping
	Late gadolinium enhancement	Pericardial inflammation/scar 		• High signal intensity of the pericardium in LGE images

Pericarditis		
CMR is recommended in patients with suspected pericarditis when a diagnosis cannot be made using clinical criteria to assess evidence of pericardial thickening, oedema, LGE, and to assess the persistence of disease during follow-up in selected cases.[110,129,165,187–194]	I	B

Akutní perikarditida – MRI - postkontrastní sycení perikardu





MRI je standardním vyšetřením u susp. perikarditidy!

Rozdělení perikarditid

4.5.1. Dry pericarditis

Dry pericarditis (40%–50% of cases), also referred to as 'pericarditis sicca', is a form of pericarditis that is characterized by inflammation of the pericardium without the presence abruptly. It is usually not associate prognosis.

4.5.2. Effusive pericarditis

Effusive pericarditis (50%–60% of cases) is charac rent presence of effusion.[115] A moderate to la monly associated with a non-idiopathic aetiolog

4.5.3. Effusive–constrictive pericarditis

Effusive–constrictive pericarditis (ECP) is characterized by the concurrent presence of PEff, along with thickening and constriction of the pericardium that restricts the normal filling of the heart.[116] Effusive–constrictive pericarditis occurs when constrictive physiology is uncovered following the drainage of a PEff with tamponade. The exact haemodynamic definition involves the right atrial pressure (RAP) failing to fall by ≥50% or to a level of <10 mmHg despite intra-

val of
nodal-
ardiac

4.5.4. Pericarditis with cardiac tamponade

The two most serious complications of pericarditis are CTP and CP. Pericarditis with CTP is a life-threatening condition where inflammation of the pericardium leads to the accumulation of compressive pericardial fluid (*Table 8*).[110,115] Symptoms may include chest discomfort, fatigue, an JV de X-

Table 8 Causes of cardiac tamponade

Common causes (in order of relative frequency):

(1) Neoplasm/malignancy
(2) Iatrogenic/trauma
(3) Pericarditis
(4) Tuberculosis (most common in developing countries)

4.5.5. Constrictive pericarditis

Pericardial constriction is a chronic condition characterized by a thickened, fibrotic, and often calcified pericardium that leads to impaired diastolic filling of the heart. It should be named CP when associated with pericarditis. Constrictive pericarditis is a consequence of chronic pericardial inflammation and is characterized by scarring, fibrosis, and loss of elasticity of the pericardium. The main symptoms are dyspnoea,

Nové rozdělení perikarditid dle přítomnosti systémového zánětu

4.5.8. Inflammatory vs non-inflammatory pericarditis

In the context of pericarditis, the terms 'inflammatory' and 'non-inflammatory' phenotype refer to two distinct clinical presentations based on the underlying pathophysiological mechanisms.

4.5.8.1. Inflammatory phenotype of pericarditis

The inflammatory phenotype is characterized by inflammation of the pericardium with evidence of systemic inflammation. This phenotype is often associated with fever, and/or elevated systemic inflammatory markers (e.g. C-reactive protein), PEff, and/or pleural effusion. These forms typically respond well to targeted anti-inflammatory therapies, including colchicine and anti-IL-1 agents.[37,127]

Dobrá reakce na protizánětlivou léčbu

4.5.8.2. Non-inflammatory phenotype of pericarditis

The non-inflammatory phenotype refers to the manifestation of pericarditis without C-reactive protein elevation or low elevation of markers of systemic inflammation (e.g. high-sensitivity C-reactive protein).[127] This occurs in 10%–20% of patients with pericarditis.[36] The pathogenesis of pericarditis with normal C-reactive protein is unknown and these cases are often difficult to treat. C-reactive protein is a sensitive albeit unspecific bio-

Špatná reakce na protizánětlivou léčbu

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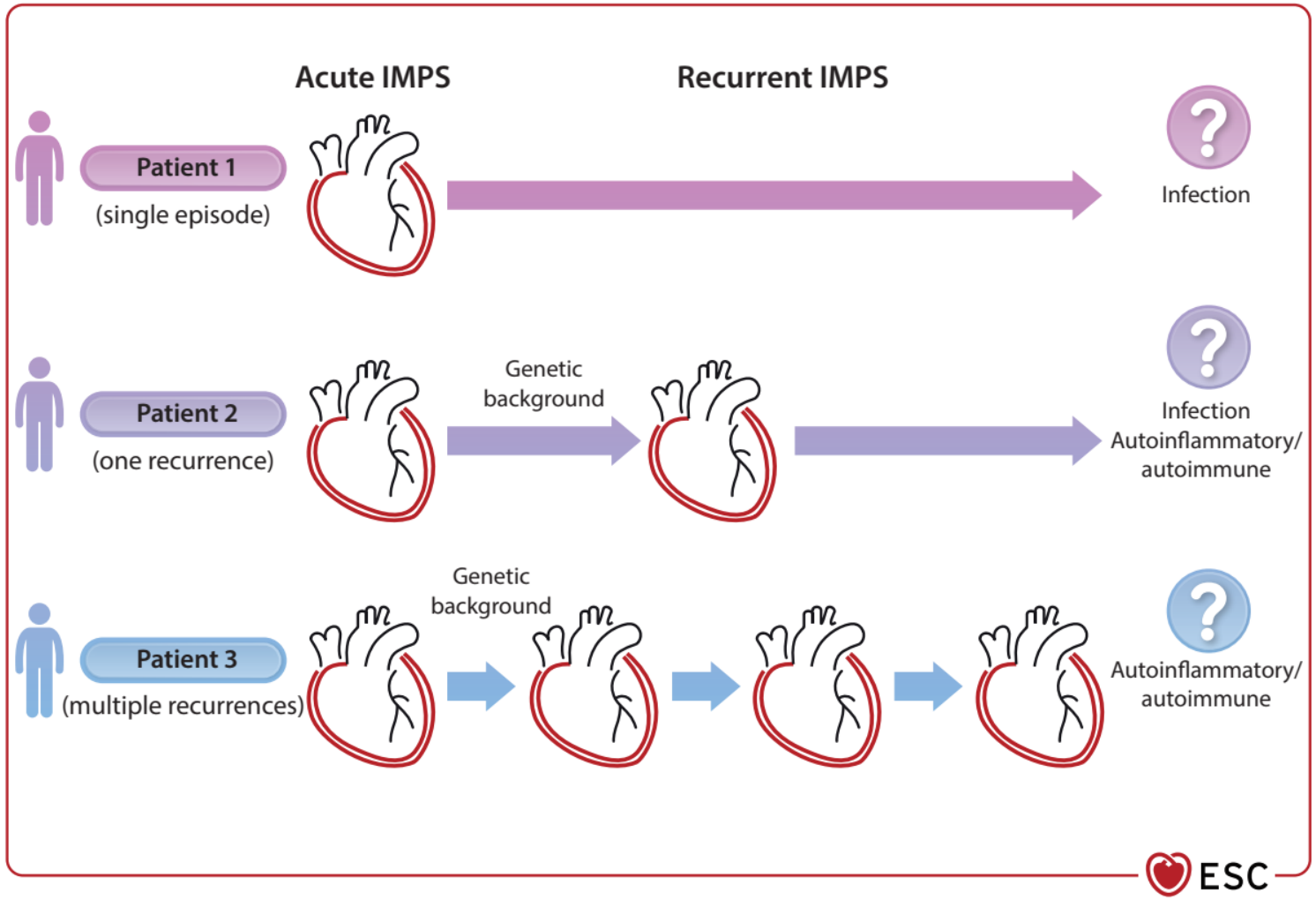
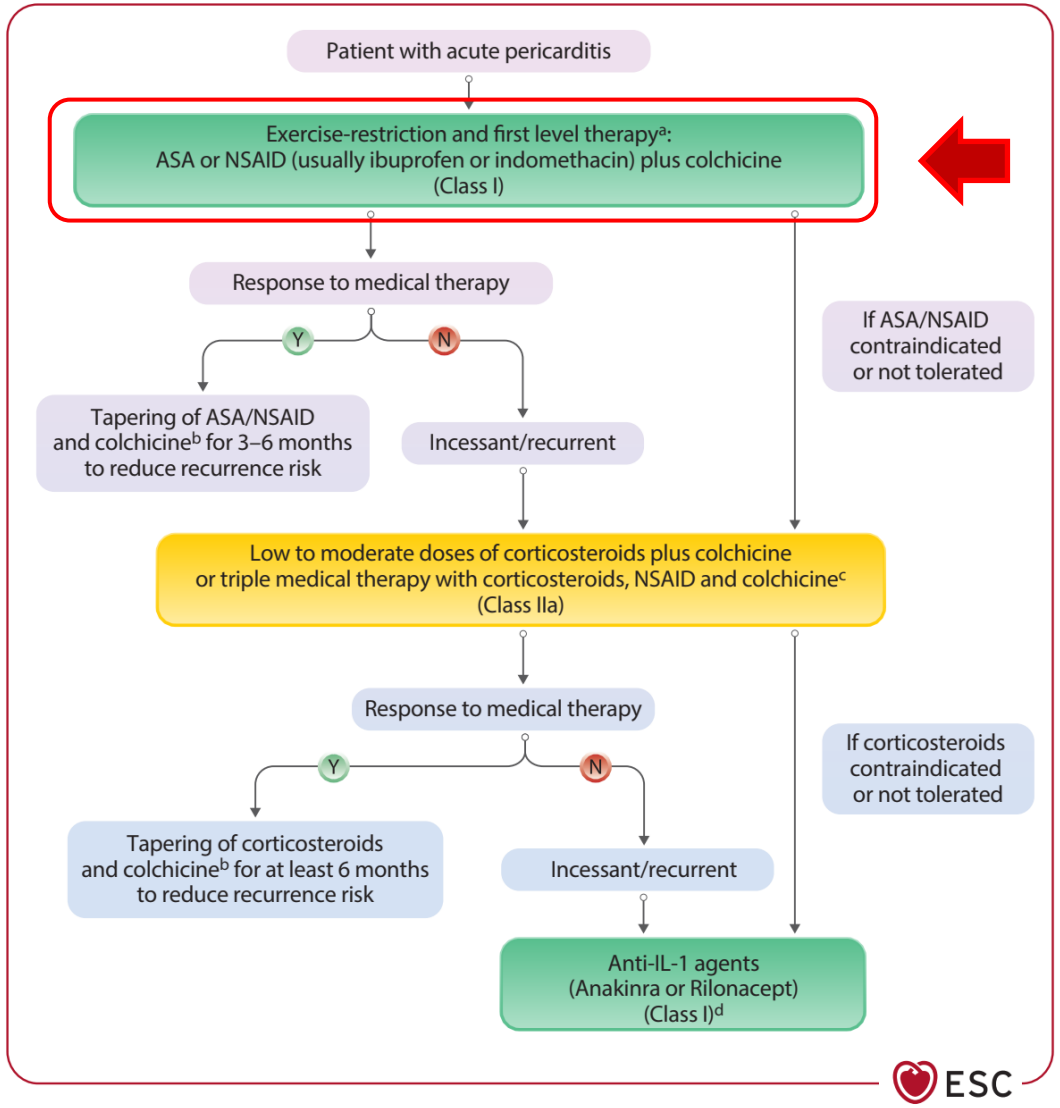
Onemocnění perikardu / perikardiální syndromy



Terapie první ataky perikarditidy



Recommendation Table 10 — Recommendations for medical therapy in pericarditis (see Evidence Table 10)

Recommendations	Class[a]	Level[b]
Colchicine is recommended as first-line therapy in patients with pericarditis as an adjunct to aspirin/NSAID or corticosteroid therapy to reduce subsequent recurrences.[24,25,108,275–278]	I	A
Anti-IL-1 agents (anakinra or rilonacept) are recommended for patients with recurrent pericarditis after failure of first-line therapies and corticosteroids and elevation of C-reactive protein levels to reduce recurrences and allow corticosteroid withdrawal.[108,275,282–284]	I	A
High-dose aspirin or NSAIDs with proton pump inhibitors are recommended as first-line therapy in patients with pericarditis to control symptoms and reduce recurrences.[291,292]	I	B

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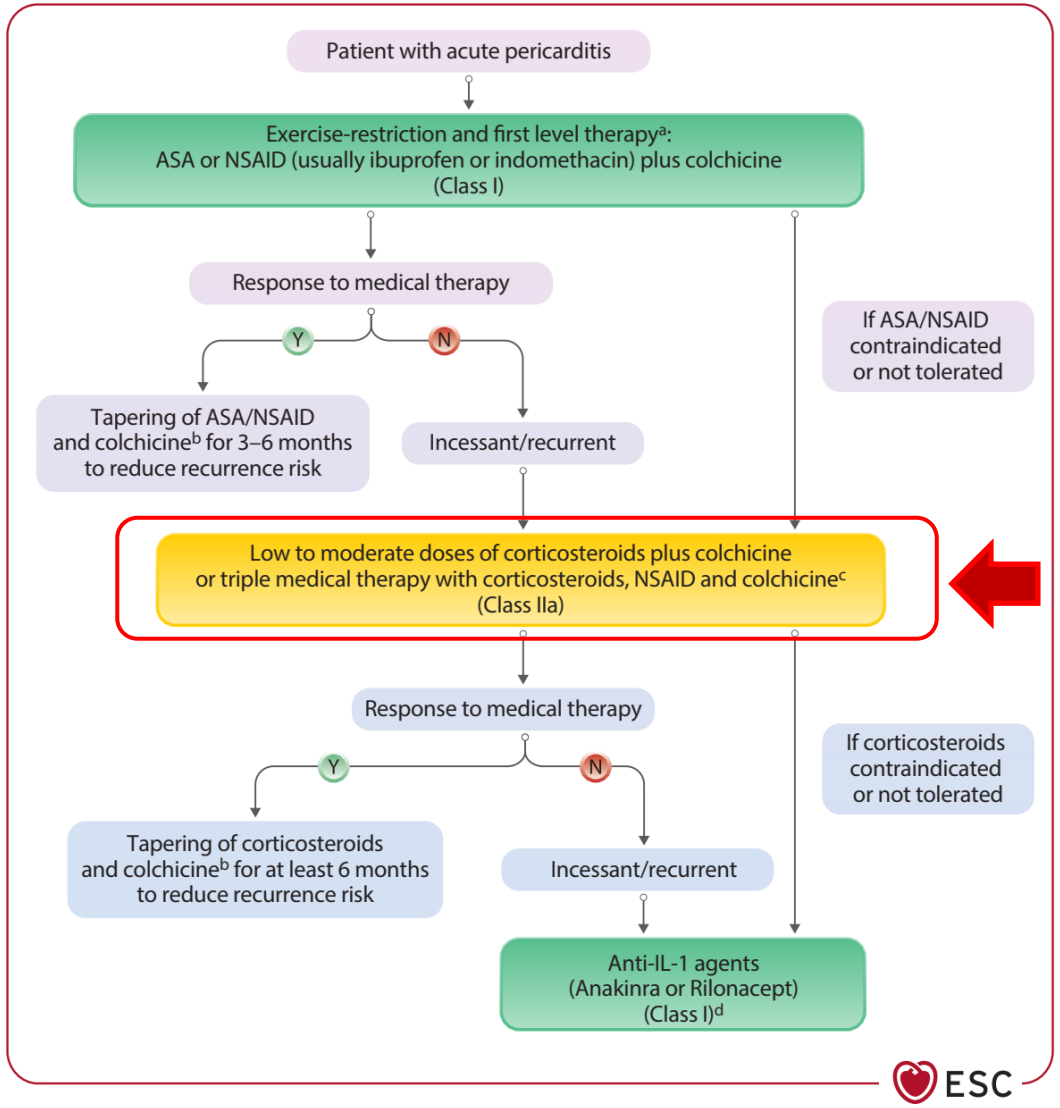
Terapie rekurentní / incesantní perikarditidy



Low- to medium-dose[c] corticosteroids should be considered for patients with pericarditis only in cases of contraindication/failure of aspirin/NSAIDs and colchicine, or when there is a specific indication to control symptoms and reduce recurrences[d].	IIa	C
A β-blocker should be considered in symptomatic patients, despite full anti-inflammatory therapy, and heart rate at rest >75 b.p.m. in order to improve symptom control.[274]	IIa	C

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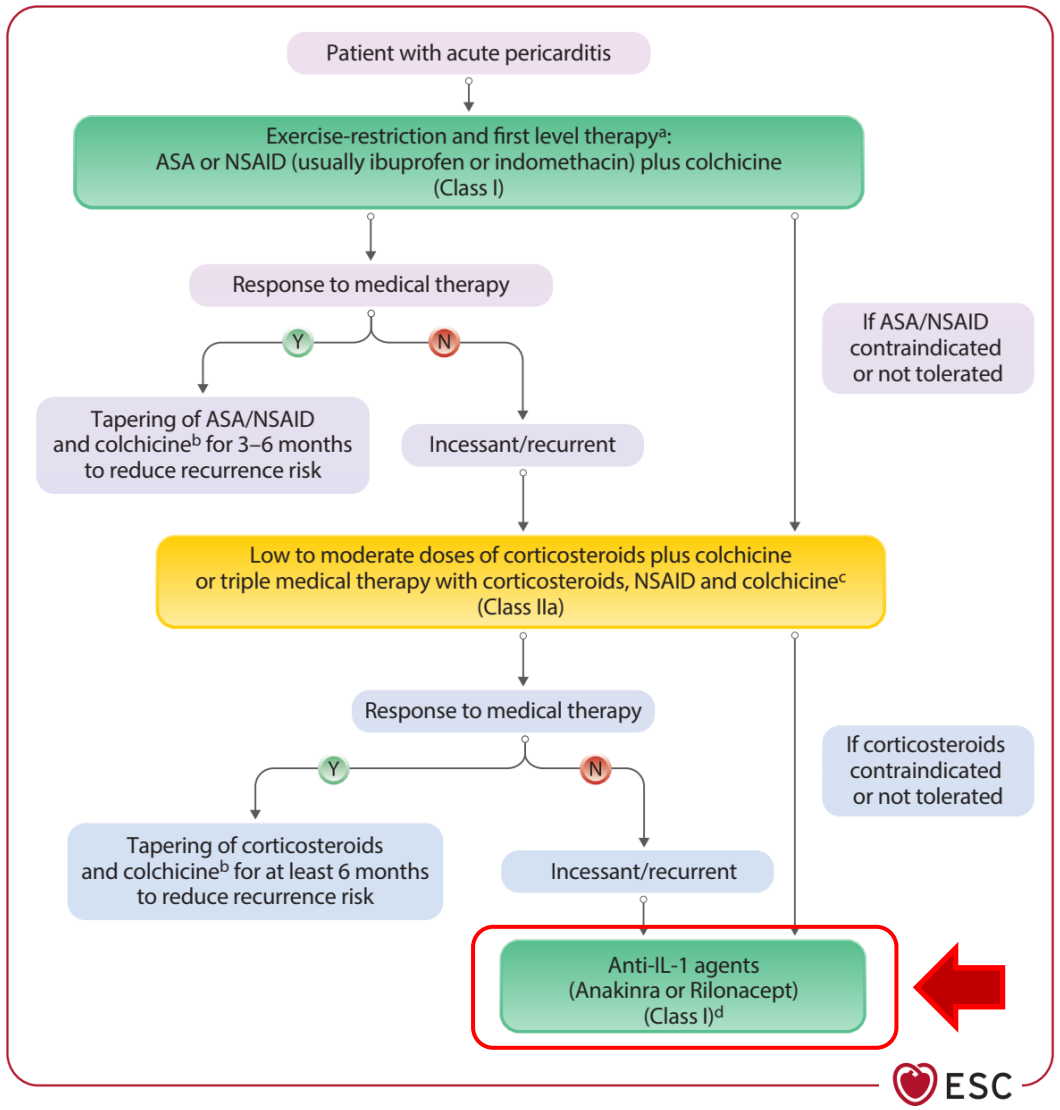
Terapie rekurentní / incesantní perikarditidy



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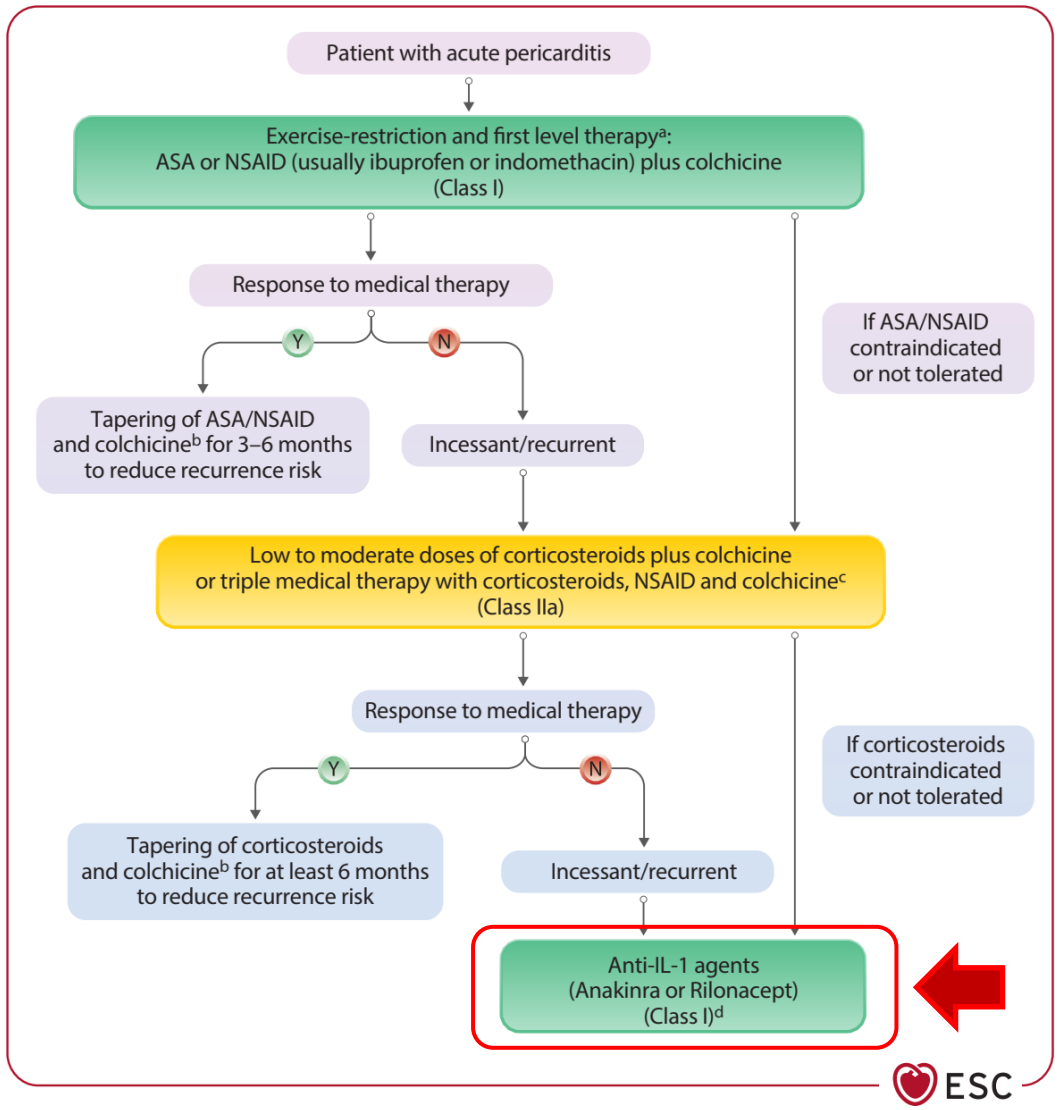
Terapie



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High-dose aspirin or NSAIDs with proton pump inhibitors are reco… patients with peric… reduce recurrence…		
Anti-IL-1 agents (anakinra or rilonacept) should be considered in cases of incessant/recurrent pericarditis with evidence of pericardial inflammation on CMR after failure, contraindications, and intolerance to first-line therapies and corticosteroids regardless of C-reactive protein levels to reduce recurrences and allow corticosteroid withdrawal.	IIa	C

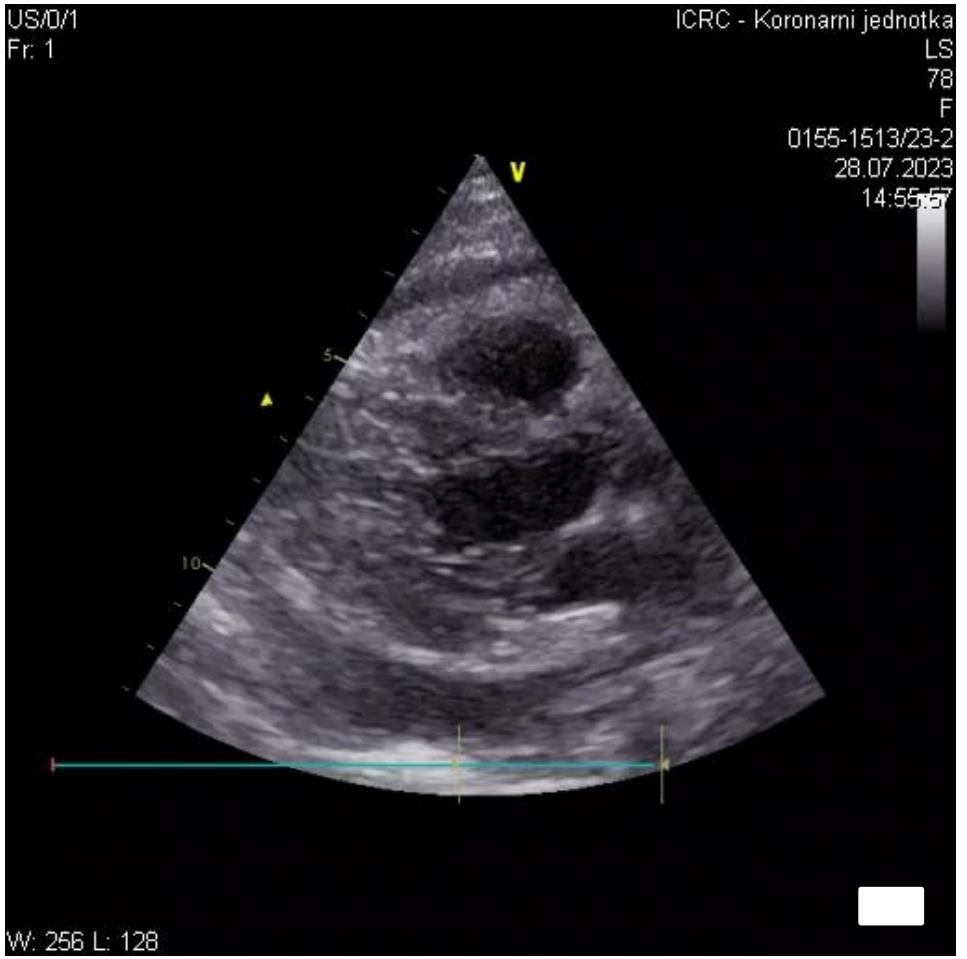
Dávkování a trvání léčby

Table 13 Specific initial dosing and duration of therapy for acute and recurrent pericarditis

Therapy	Dosing	Duration[a]	Tapering[a]
Aspirin[b]	750–1000 mg 3 times daily	1–2 weeks	Decrease by 250 mg every 1–2 weeks
Ibuprofen[b]	600–800 mg 3 times daily	1–2 weeks	Decrease by 200 mg every 1–2 weeks
Indomethacin	25–50 mg 3 times daily	1–2 weeks	Decrease by 25 mg every 1–2 weeks
Colchicine[b]	0.5 mg once daily (<70 kg or severe renal impairment) or 0.5 mg twice daily	3–6 months	Not required
Prednisone	0.2–0.5 mg/kg/day	2–4 weeks	Several months
Treatment for recurrences only:			
Azathioprine	Starting with 1 mg/kg/day then gradually increased to 2–3 mg/kg/day	Several months	Several months
IVIG	400–500 mg/kg i.v. daily for 5 days	5 days	Not required
Anakinra	1–2 mg/kg/day up to 100 mg/day in adults	At least 6 months/ >12 months	Needed (at least 3–6 months)/ unknown
Rilonacept[c]	320 mg once daily followed by 160 mg weekly		

Kazuistika - žena , nar. 1978

- Překlad ke zhodnocení perikardiálního výpotku 7/2023 a zvážení perikardiální punkce
- CRP 214, PCT negat , Leu 12,2, Troponin T v normě
- Normotenze, námahová dušnost, výrazné bolesti na hrudi



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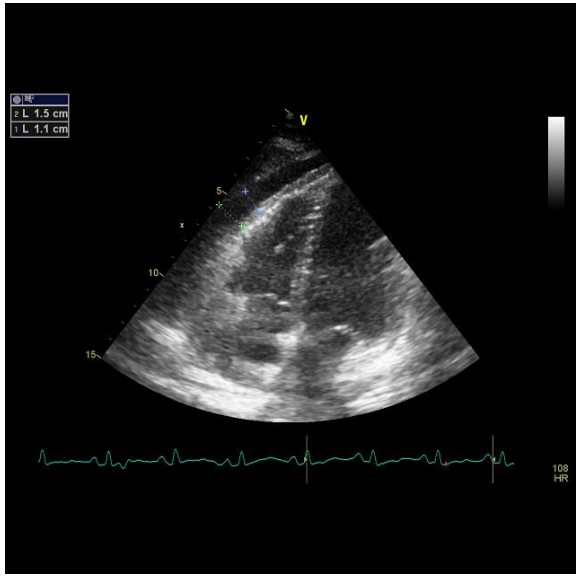
Kazuistika, žena nar. 1978

- Punkce neindikována pro hemodynamickou stabilitu a jen nažnačené známky pre - tamponády
- Nasazena terapie ibuprofen 3x 400mg, Colchicin 2x0,5mg
- Pro nárůst CRP na 312 při negat. pct a výrazné bolesti na hrudi kortiokoidy
- Dimise s medikací Ibuprofen 3x400, detrakce 200 mg týdně, Prednison 30 mg detrakce 5 mg týdně, colchicin 1x 0,5mg, CRP 7
- Echo srdce při kontrolách postupně zcela bez výpotku

Kazuistika žena r.1978



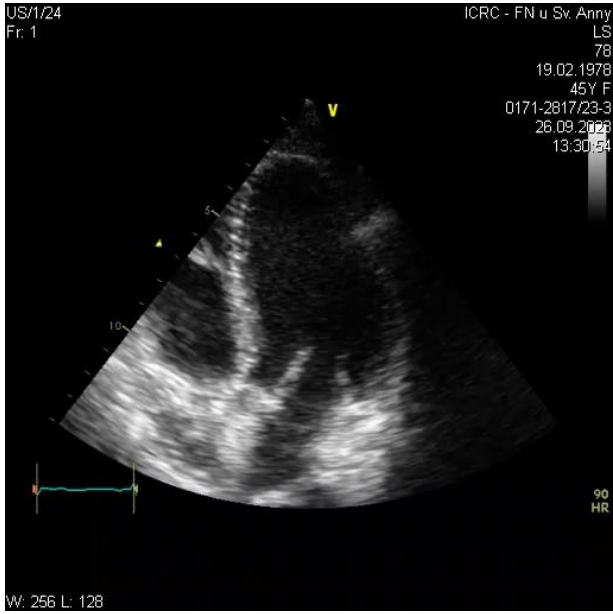
- Recidiva bolestí na hrudi 29.8., na echo znovu perikardiální výpotek do 15 mm, při terapii Ibuprofen 600 mg denně, Prednison 15 mg denně , Colchicin 0,5mg, CRP 90

- Navýšena dávka kortikoidů, ibuprofenu – do týdne vymizení výpotku a normalizace CRP

- 22.9. po snížení dávky kortikodů z 25mg denně na 20 mg denně znovu recidiva bolestí, CRP 110, znovu výpotek v perikardu do 10 mm - přijata k hospitalizaci

  Opět rychlá normalizace echo i laboratorních hodnot , do medikace

  Cellcept 2x 500 mg, Prednison 40mg, Ibuprofen 3x 600 mg, colchcicin, dimise za 5 dní



Kazuistika žena 1978

- Další přijetí k hospitalizaci 12.2.2024 – znovu silné bolesti, tentokrát na echo bez významného výpotku v perikardu, CRP 340
- V době přijetí medikace : prednison 10mg, Ibuprofen 400-200-200mg, Colchicin 0,5mg, Cellcept 2 x 1000 mg

MR srdce

- nezvětšené srdeční oddíly, dobrá celková i segment. systolická fce LK, EF LK 64%, bez detekce edému, lipomatozní degenerace či fibrozy myokardu. Zesílený perikard s vyšší signálem v T2v obrazech a pozdním sycením, bez patolog. množství tekutiny - zn. akutní perikarditidy.

- Navýšení kortikoidů, redukce Cellcept, nasazena anakinra – postupně 1 amp sc denně

- V dalším průběhu téměř vysazeny kortikoidy, uplně cellcept, 1/2025 znovu suspektní recidiva, řešeno ambulantě navýšením kortikoidů a přechodně ibalgin

Léčba rekurentní / recidivující perikarditidy 3 - linie

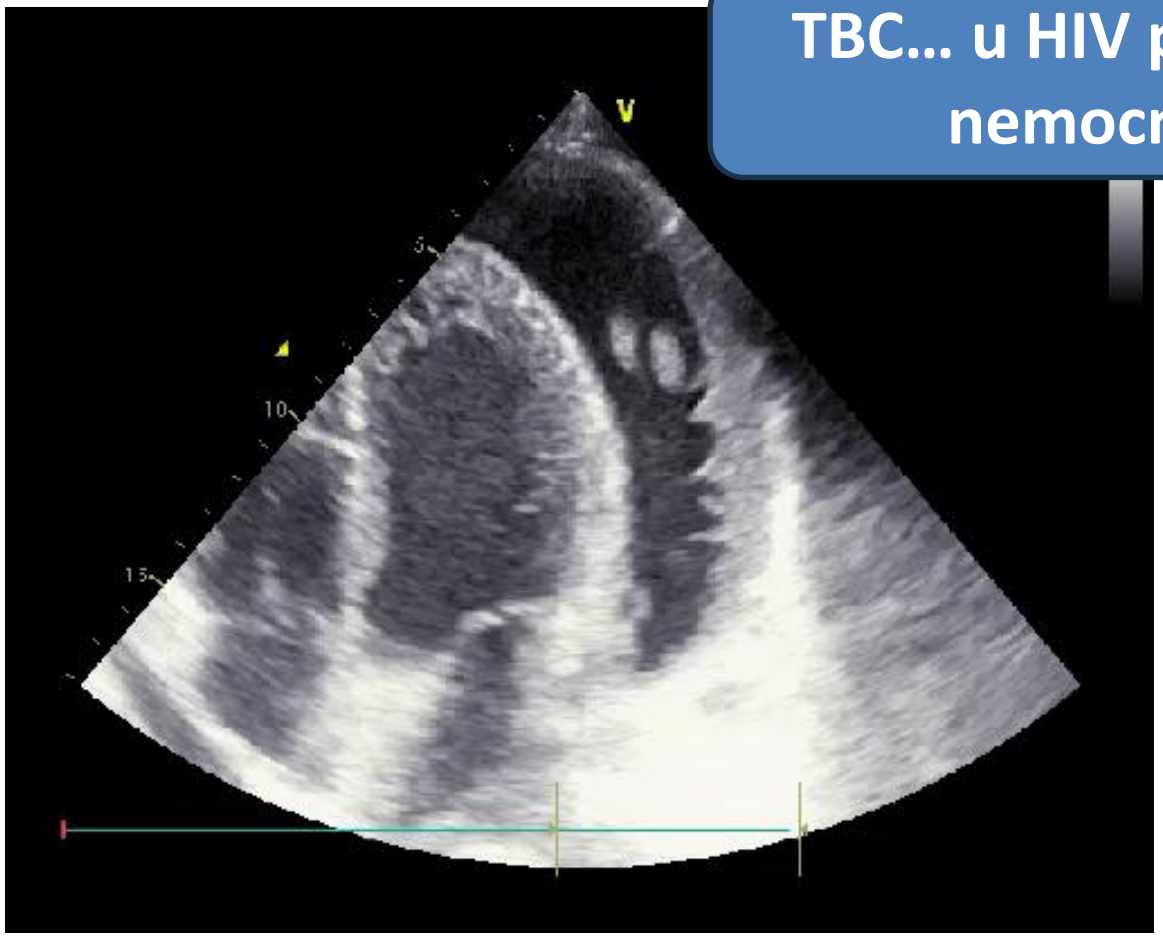
- **Antagonisté receptorů interleukinu-1** – anakinra, rilonacept
- Anakinra (Kineret) je rekombinantní lidský antagonista receptoru pro interleukin-1
- U obou těchto léčiv byl ve studiích AIRTRIP, IRAP a RHAPSODY prokázán jasný efekt na dobu trvání a snížení počtu rekurencí při postupně vysazené terapii kortikoidy.
- Efekt antagonistů receptorů interleukinu-1 je přepokládán především u jedinců s tzv. zánětlivým fenotypem rekurentní perikarditidy, charakterizovaným horečkou a/nebo elevací CRP při rekurenci v rámci autoinflamatorní reakce

Specifické typy perikarditidy

- Tuberkulosní perikarditida (u nás vzácná, vysoká mortalita)
- Perikarditida asociovaná s nádorovým onemocněním
- Post-cardiac injury syndrome – novinka
- Perikaritida u autoimunitních nemocí
- Purulentní perikarditida (30-40% mortalita)
- Incesantní a recidivující perikarditida
- Zánětlivý a nezánětlivý typ výpotku
- Srdeční tamponáda
- Konstriktivná perikarditida

ECHO nález – perikarditida…ale jaká etiologie?

TBC… u HIV pozitivního nemocného!



Perikarditida po perimyokardiálním poškození

11.3. Post-cardiac injury syndrome

The term PCIS is an umbrella term indicating a group of inflammatory pericardial syndromes, including late post-acute myocardial infarction (post-AMI) pericarditis (or Dressler syndrome), post-pericardiotomy syndrome (PPS), and post-traumatic pericarditis with or without bleeding. Currently several post-traumatic cases are iatrogenic and related to cardiovascular interventions.[585,586] Nowadays, Dressler syndrome appears in <1% of cases, mainly in larger infarctions and/or late reperfusion, typically 1–2 weeks after AMI.[587] Notably, patients with a post-AMI PEff of >10 mm at end-diastole should be investigated for a possible subacute heart rupture.[588,589]

In contrast, cases developing after cardiac device implantation or arrhythmia ablation (e.g. pericarditis appears in ~10% of cases after AF ablation) are becoming increasingly common due to the growing number of invasive procedures.[586,587,590,591]

Recommendation Table 22 — Recommendations for post-cardiac injury syndrome (see Evidence Table 22)

Recommendations	Class[a]	Level[b]
Anti-inflammatory therapy is recommended in patients with PCIS to hasten symptom remission and reduce recurrences.[292,600]	I	B
IL-1 antagonists are recommended in patients with refractory PCIS to prevent recurrences and progression to constriction.[604]	I	B
High-dose aspirin is recommended as the first-choice anti-inflammatory therapy for post-myocardial infarction pericarditis and in patients being already on antiplatelet therapy.	I	C
Colchicine, started 48 to 72 h before cardiac surgery, should be considered for 1 month in patients after cardiac surgery for the prevention of PCIS if there are no contraindications and if it is tolerated.[594,596]	IIa	A
Careful follow-up should be considered in patients with PCIS to exclude possible evolution towards constrictive pericarditis.[347]	IIa	C

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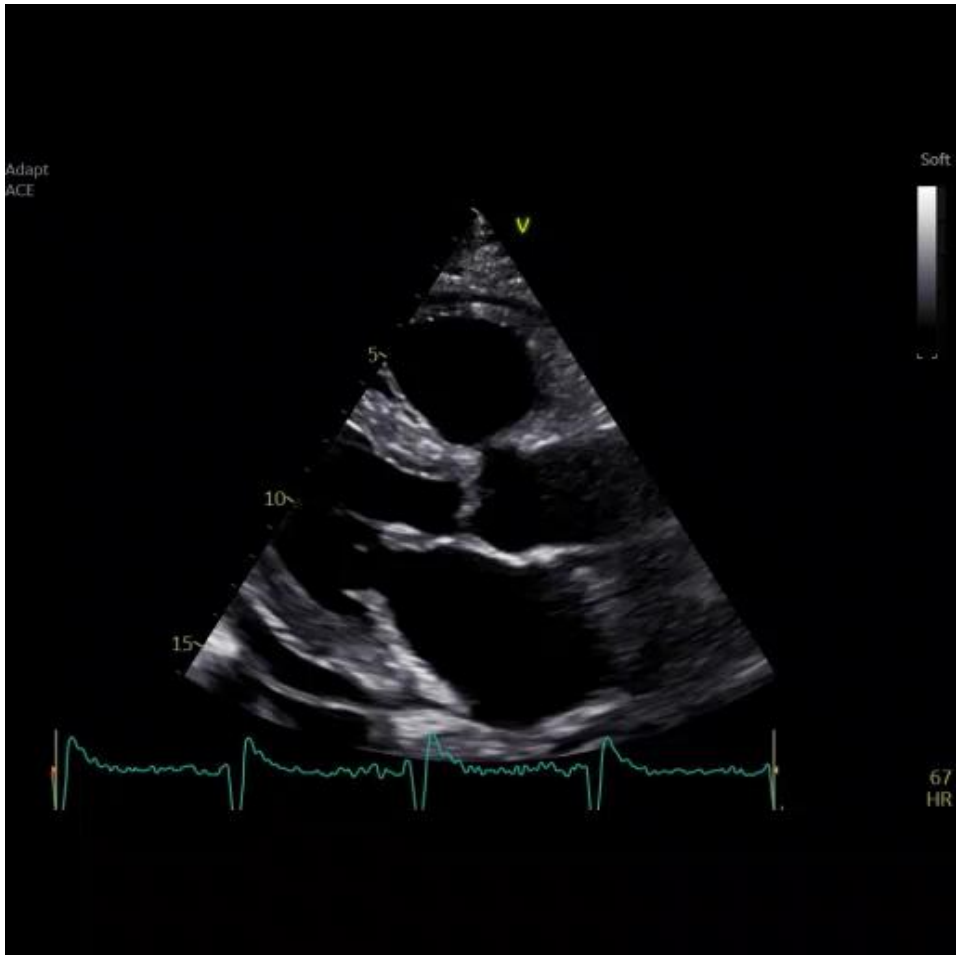
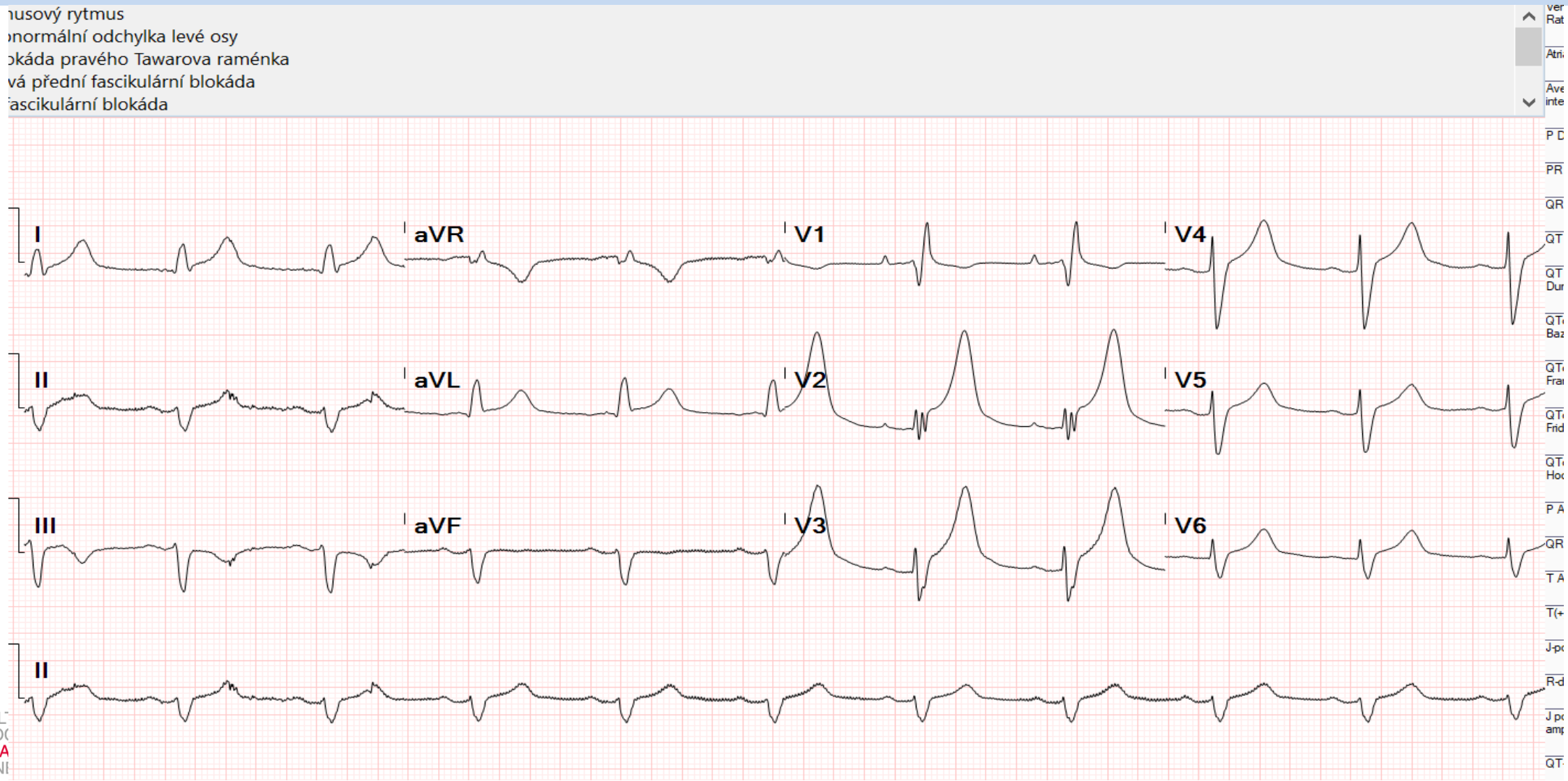
Kazuistika – muž 1952, PFA isolace plicních žil



Komplikováno vznikem perikardiálního výpotku

Kazuistika – muž 1952, PFA isolace plicních žil



Kazuistika – muž 1952, PFA isolace plicních žil

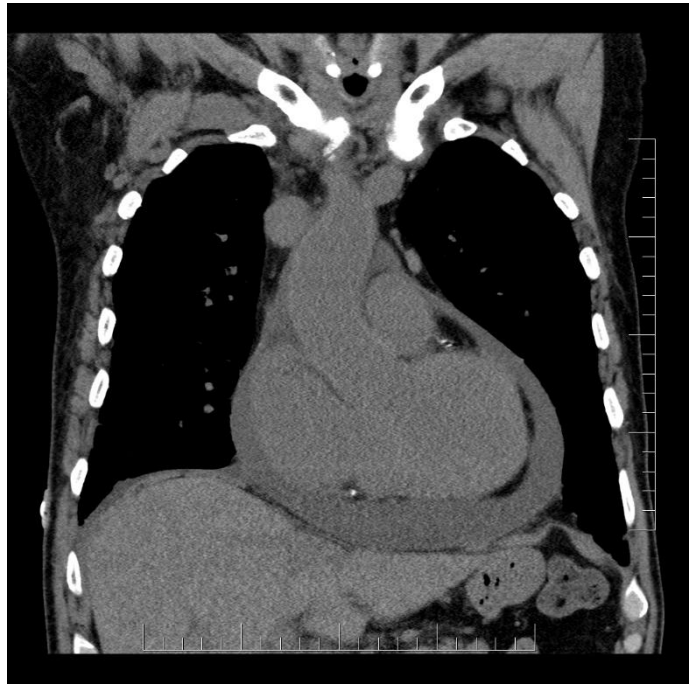
Iniciálně konzervativní postup, středně velký perikardiální výpotek

Vznik pleurálního výpotku, pleurální punkce komplikovaná výraznou protrahovanou algickou reakcí

CT hrudníku – progrese perikardiálního výpotku

Echo: variace toků na mitrální chlopni nad 25%, částečný kolaps pravé síně

Za 7 dní indikována perikardiocenteza



Kazuistika – muž 1952, PFA isolace plicních žil

Vypuštěno 750 ml výpotku – krvavý výpotek, nicméně nikoliv čistě krev

Punkce apikálním přístupem s echo navigací

Na rtg plic kontrola – suspektní drobný PNO, potvrzený na kontrolním CT, léčen konzervativně

Postupně stabilizace stavu, bez recidivy perikardiálního výpotku

Terapie při dimisi : Colchicin 2x 0,5 mg, NOAC , BB, diuretika

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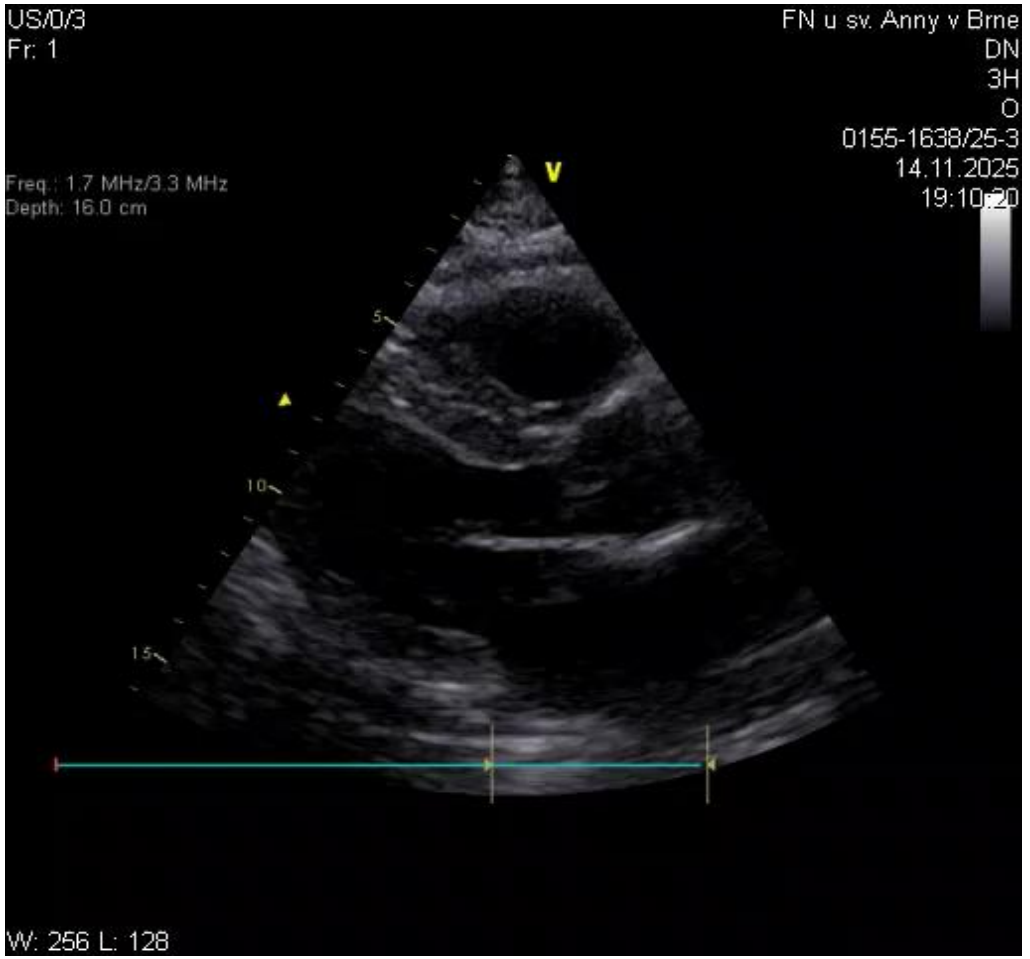
Kazuistika – muž 1952, PFA isolace plicních žil

25.10- 7.11: rehospitalizace – nozokomiální infekt, pleurální výpotek vlevo, perikard bez výpotku , po ATB terapii a pleurální punkci dimise

Další rehospitalizace 14.11. bolesti na hrudi vázané na polohu, horší vleže, otoky DKK

CRP 70.. 120, PCT negativní , afebrilní, pleurální výpotek vlevo recidiva

Nasazen Ibuprofen 3x 600 mg, colchicin ponechán



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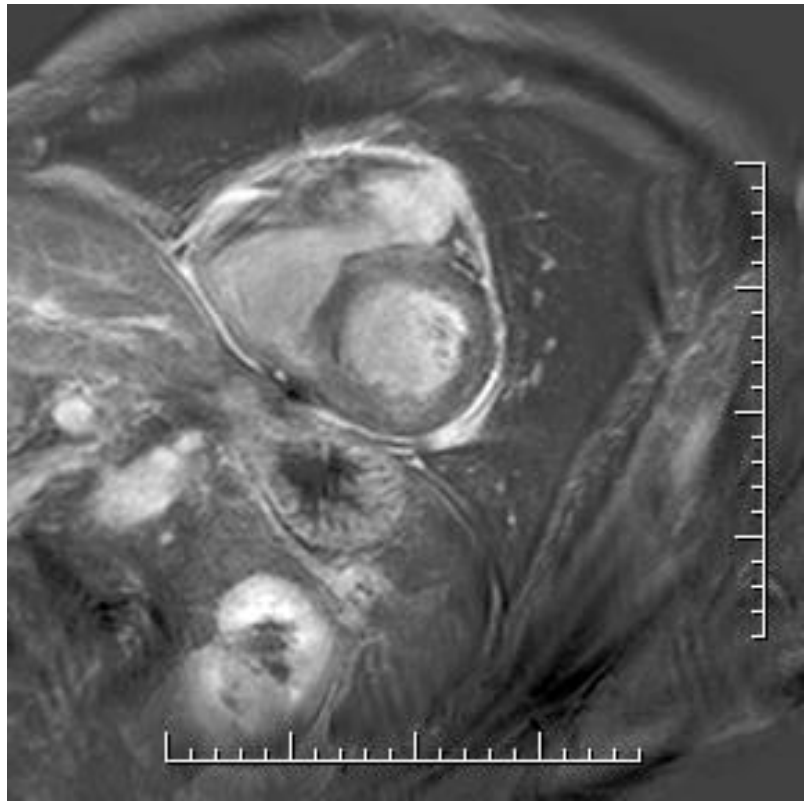
Kazuistika – muž 1952, PFA isolace plicních žil

MRI :

- Hypertrofie myokardu LK, zejm. v bazálním astředním segmentu - septum 20 mm v bazálním až středním segmentu. Zbylé stěny LK 10 mm, dolní stěna 15 mm.
- Postkontrastně dochází k subepikardiálnímu LGE laterální a dolní stěny LK v bazálním segmentu. Neohraničené pozdní sycení je i v obl. septa a inferoseptálně v bazálním segmentu.
- Perikardiální výpotek nepřítomný. Perikard je zesílený až na 6 mm, postkontrastně se sytí.
- Z: MR obraz perimyokarditidy.



Po nasazení ibuprofenu vymizel perikardiální výpotek, zvažovány kortikoidy, zatím nepodávány.
Propuštěn za 9 dní

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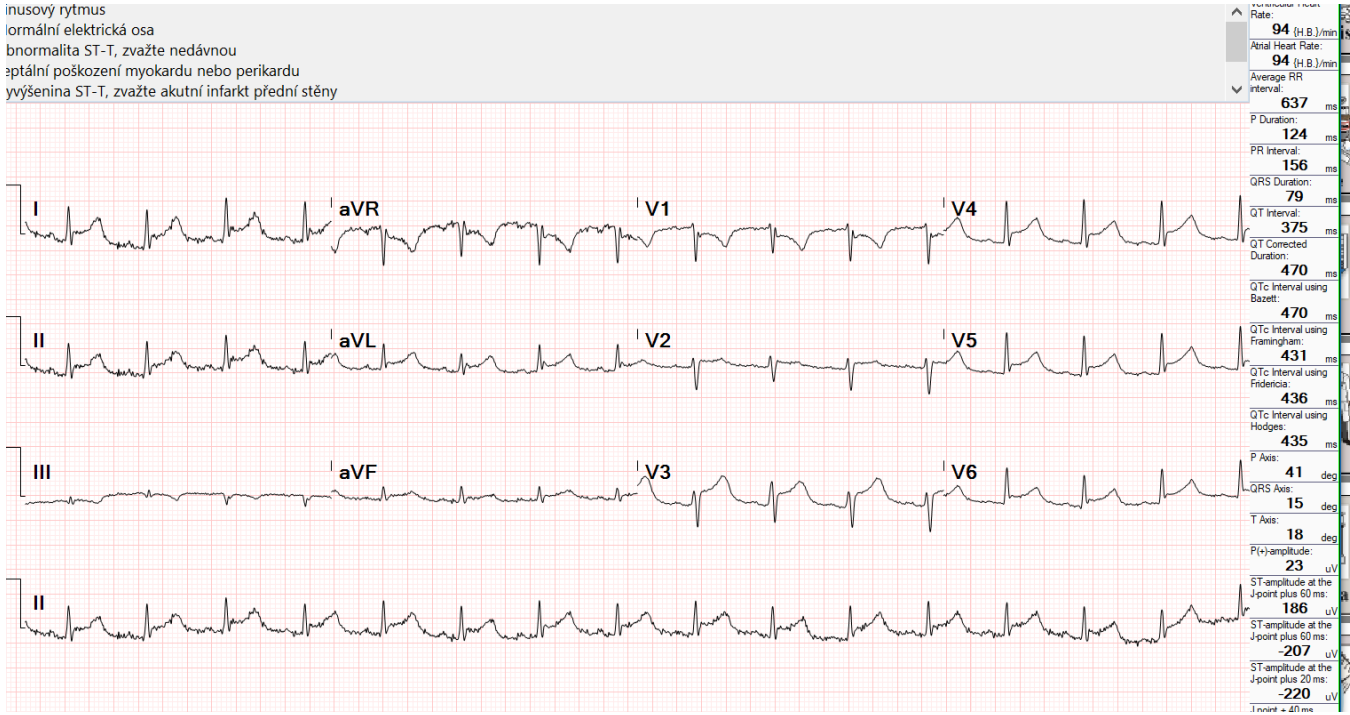
Purulentní perikarditida : kazuistika

- Tuberkulosní perikarditida (u nás vzácná, vysoká mortalita)
- Perikarditida asociovaná s nádorovým onemocněním
- Post-cardiac injury syndrome – novinka
- Perikaritida u autoimunitních nemocí
- **Purulentní perikarditida (30-40% mortalita)**
- Incesantní a recidivující perikarditida
- Zánětlivý a nezánětlivý typ výpotku
- Srdeční tamponáda
- Konstriktivná perikarditida

Muž, narozený 1971

- Odeslaný pro infekt , febrilie, dušnost, bolest i na hrudi 13.3.2025, 3 dny léčen klacidem
- 2015 po totální laryngektomii pro ca, po CHT, RT, tracheostomie
- Laboratoř : CRP 398, PCt 2,5, leuko 33 tis., zvýšené JS



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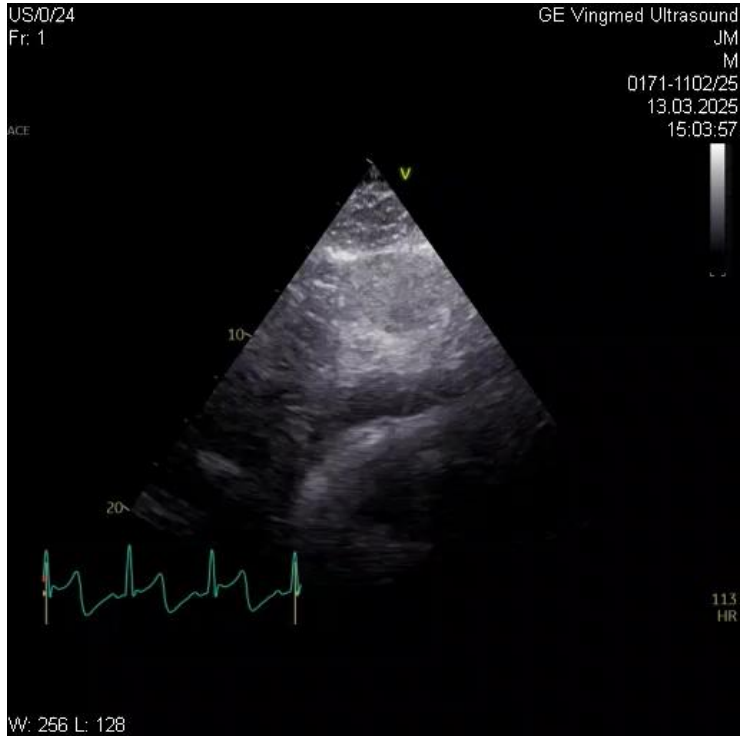
Muž, narozený 1971



- Provedena periardiocenteza – inicálně 700 ml hustšího žlutavého exsudátu, do rána 1100 ml

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Muž, narozený 1971

- Provedena perikardiocenteza – inicálně 700 ml hustšího žlutavého exsudátu, do rána 1100 ml
- Kultivace i PCR z výpotku Streptococcus sp., kultivace TBC negativní
- Terapie : Dalacin, Penicilin G, Linezolid celkem 28 dní, dále sefotak
- Výplachy perikardu roztokem s betadinou 3x denně 200ml injikovat a aspirovat
- Zvažována chirurgická drenáž, nakonec pouze klasický CVK – celkem
- Opakovaně pleurální punkce vlevo, kultivačně negativní

Vyšetřovaný materiál		
Primární vzorek	perik. výpot	
Specifikace vzorku	perik. výpot	-
Multiplex PCR sepse		
Staphylococcus spp.	neg.	-
Streptococcus spp.	.POZITIVNÍ.	-

Kvantifikace: **15 365 100 kopi í NK/ml vzorku. Infek ční agens.**
Kvantifikace je orientační. < 800 kopií NK/ml velmi slabě pozitivní, 801-10 000 slabě pozitivní, 10 001-500 000 pozitivní, **>500 000 siln ě pozitivn í.**

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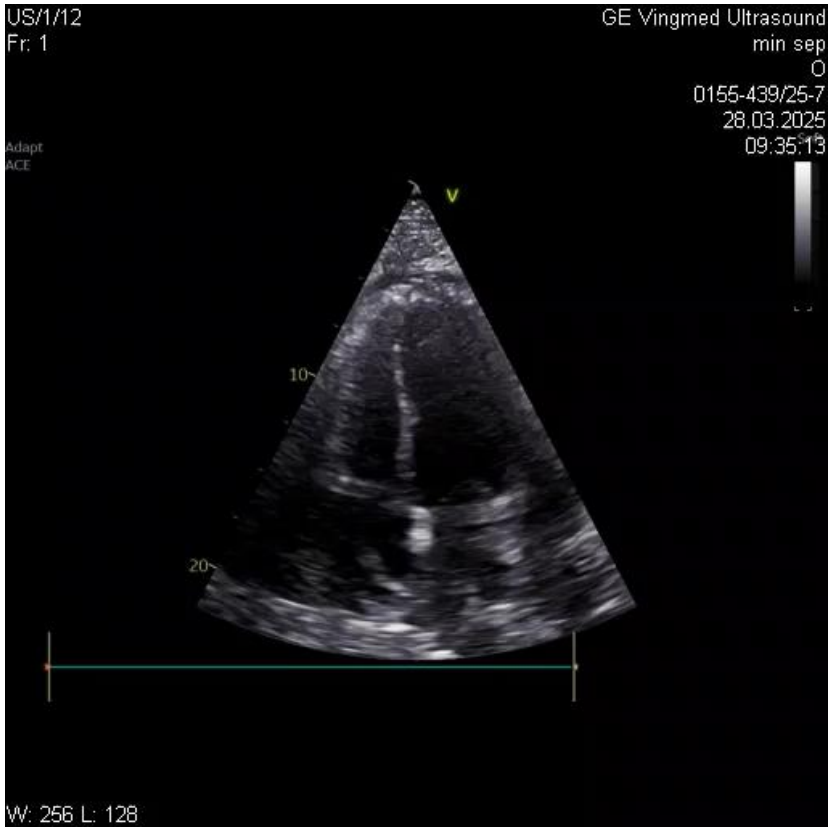
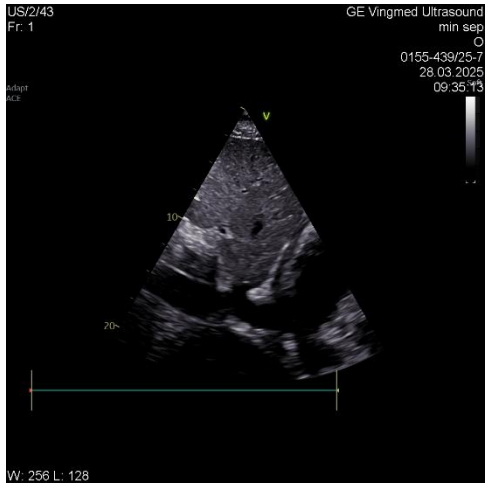
Muž, narozený 1971





- Transientní konstrikce ? Naznačený septal bounce , doplnující se výpotek v pleuře, otoky DKK, nekolabující VCI

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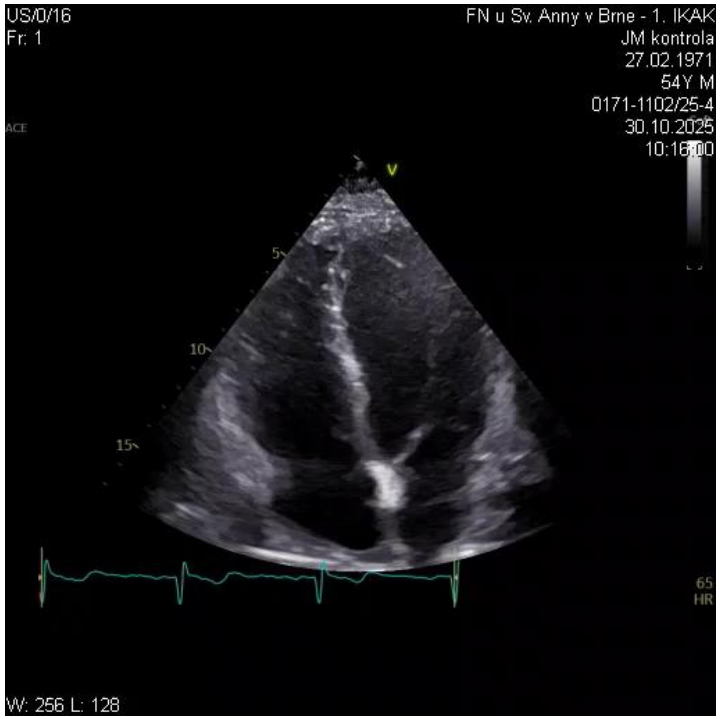
Muž, narozený 1971

- Hospitalizace u nás 13.3.-7.4., poté do 15.4. na chirurgii – VATS vlevo, sanace emypemu (punktáty opakovaně čiré)
- 17.4. rehospitalizace pro akutní CMP – při okluzi a.carotis vlevo, okluze a.centralis retinae, trombosa ACM – mechanická rekanalizace , neurologicky levost. hemiparesa, amaurosa OD, neglect sy, přes rehabilitaci zlepšen , dimise 13.5.
- Kolchicin 2x 0,5 mg do 7/2025
- 30.10 – kontrolní echo – bez výpotku, bez zn. Konstrikce
- Neuroloigcky minim. reziduum , na UZ okluze ACC vpravo
- Amaurosa OD trvá, přesto dle očního vyš. schopen řídit



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Konstriktivní perikarditida

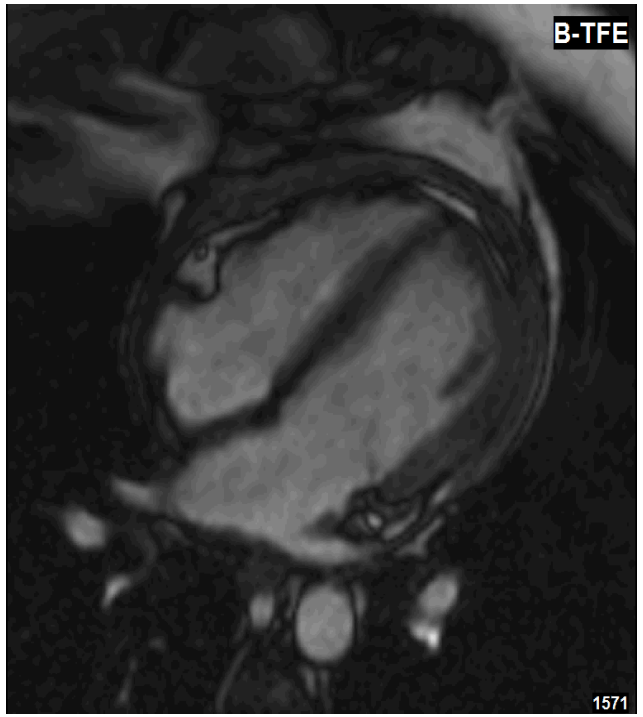
- **Porucha diastolického plnění komor v důsledku onemocnění perikardu.**
- **Klinickému obrazu dominují známky pravostranného srdeční selhání.**
- **Je charakteristická zvýrazněním interventrikulární dependence.**

Syndrome	Definition	Therapy
Transient constriction (d.d. permanent constrictive pericarditis, restrictive CMP)	Reversible pattern of constriction following spontaneous recovery or anti-inflammatory therapy	A 3–6 month course of empirical anti-inflammatory medical therapy
Effusive–constrictive pericarditis (d.d. cardiac tamponade, constrictive pericarditis)	Failure of the right atrial pressure to fall by 50% or to a level <10 mmHg after pericardiocentesis May be diagnosed also by non-invasive imaging	Pericardiocentesis followed by medical therapy Surgery for persistent cases
Chronic constriction (d.d. transient constriction, restrictive CMP)	Persistent constriction after 3–6 months	Radical pericardiectomy, medical therapy for advanced cases or high risk of surgery or mixed forms with myocardial involvement

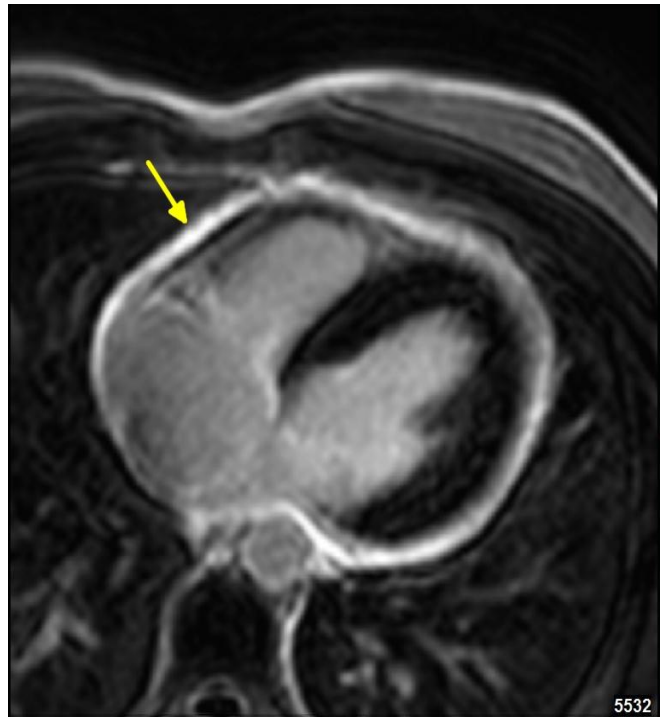
Konstriktivní perikarditida

Hemodynamické známky konstrikce + pozitivita LGE perikardu = akutní zánět

transitorní konstrikce



podání
Antiinflamatorní léčby NSAID
+ colchicin



Diferenciální dg konstriktivní perikarditidy a restriktivní kardiomyopatie

Herz 2012 · 37:664–674
DOI 10.1007/s00059-012-3663-4
Published online: 1 September 2012
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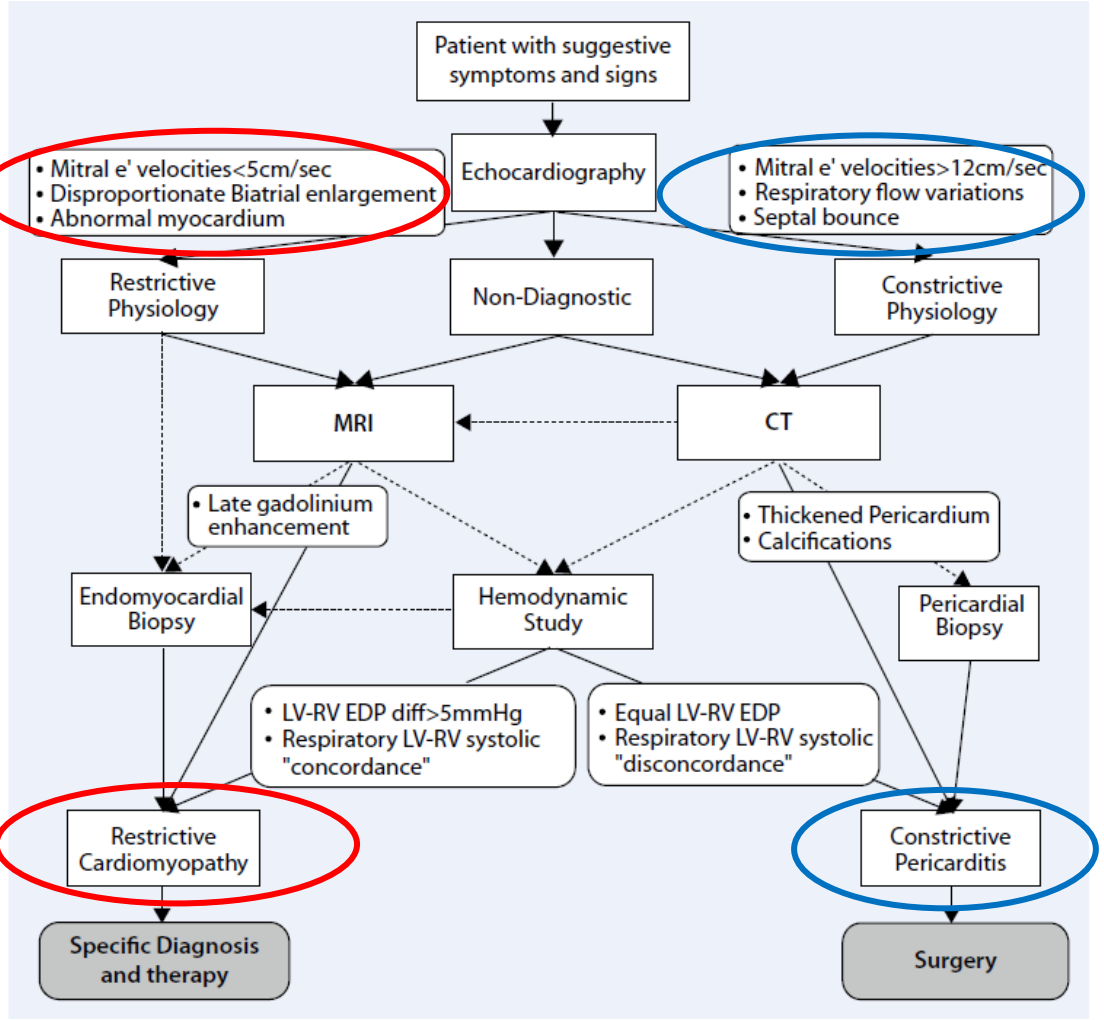
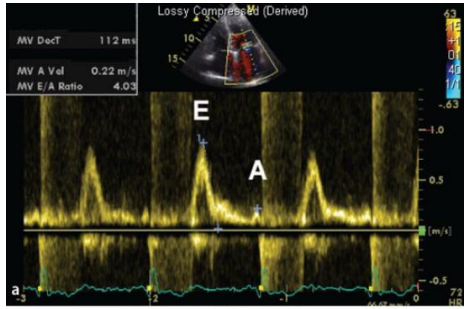
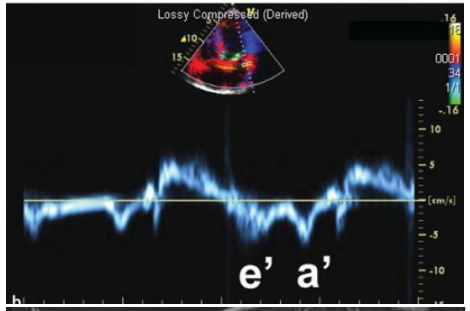
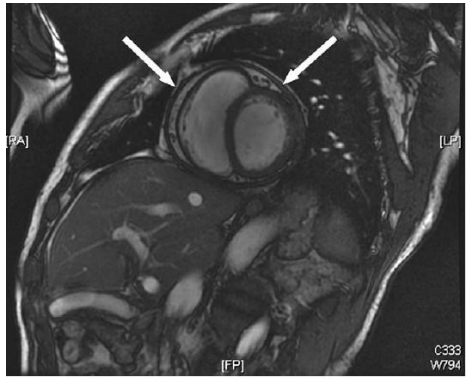
Heart Failure Center, Heart Institute, Hadassah University Hospital, Jerusalem

Advances in the differentiation of constrictive pericarditis and restrictive cardiomyopathy



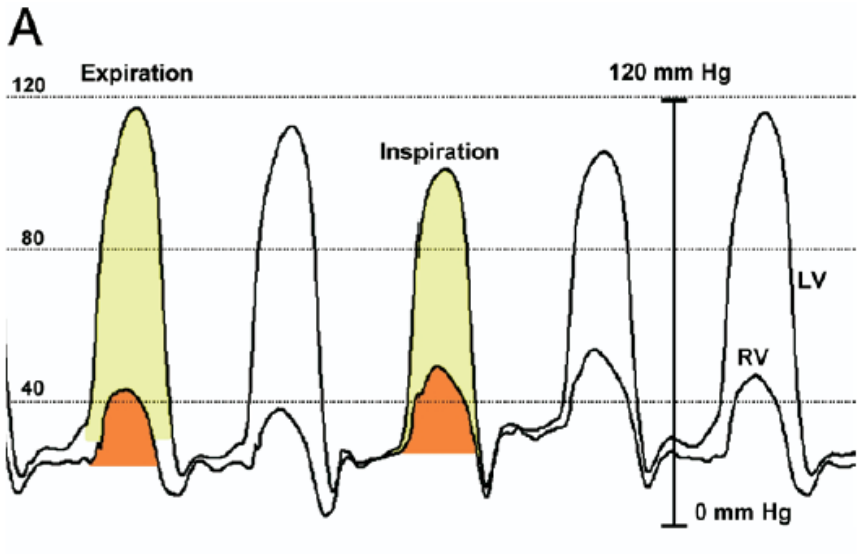






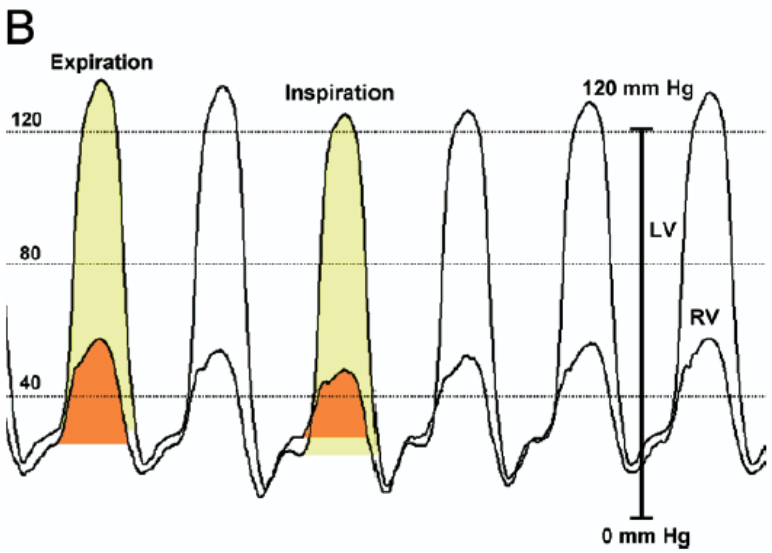
Diferenciální dg konstriktivní perikarditidy a restriktivní kardiomyopatie

Konstriktivní perikarditis



Diskordance systolických komorových tlaků
Zvýrazněná interventrikulární dependence

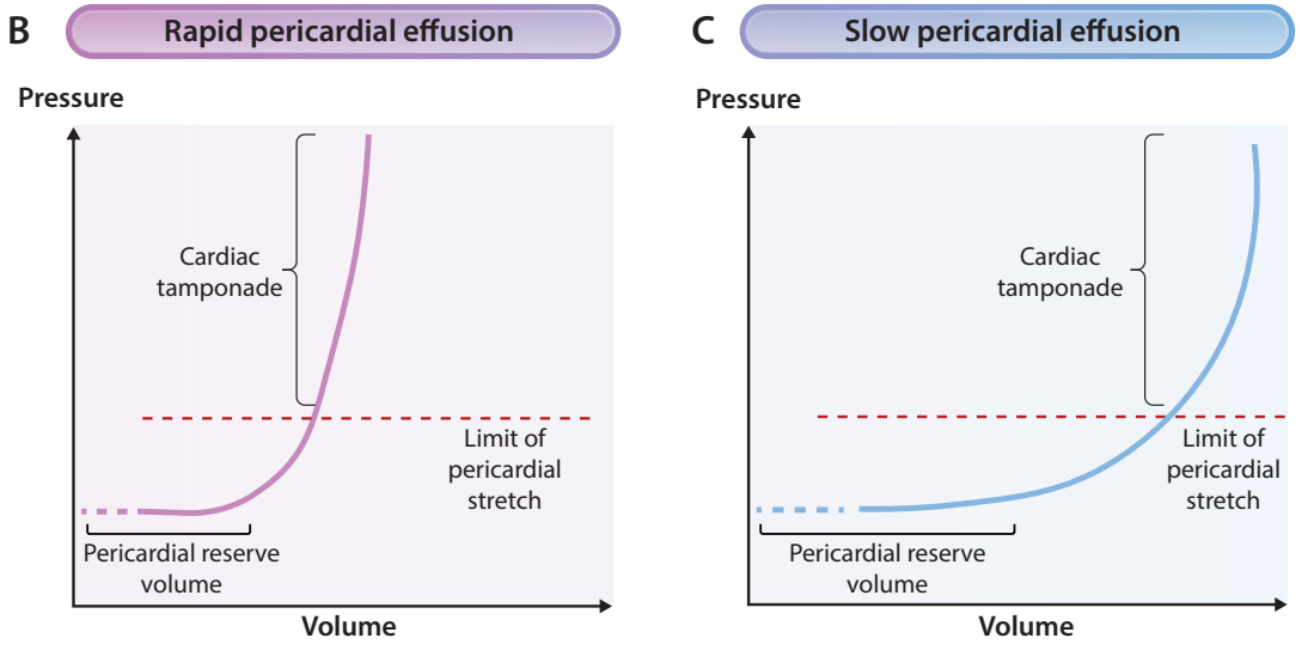
Restriktivní kardiomyopatie



Konkordance systolických komorových tlaků

Srdeční tamponáda

Perikardiální syndrom, kdy přítomnost tekutiny v perikardu omezí diastolické plnění komor tak, že dochází k poklesu srdečního výdeje.



Echocardiographic feature	Sensitivity	Specificity
Large pericardial effusion with swinging heart	n.a.	n.a.
Diastolic collapse of the RA	50%–100%	33%–100%
Duration of diastolic collapse of the RA as a ratio of the cardiac cycle length >0.34	>90%	100%
Diastolic collapse of the RV	48%–100%	72%–100%
Respiratory changes of the mitral E velocity >25%–30%, tricuspid E velocity >40%–60%	n.a.	n.a.
Inferior vena cava plethora (dilatation >20 mm and <50% reduction of diameter with respiratory phases), as well as hepatic vein dilatation	97%	40%

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Srdeční tamponáda

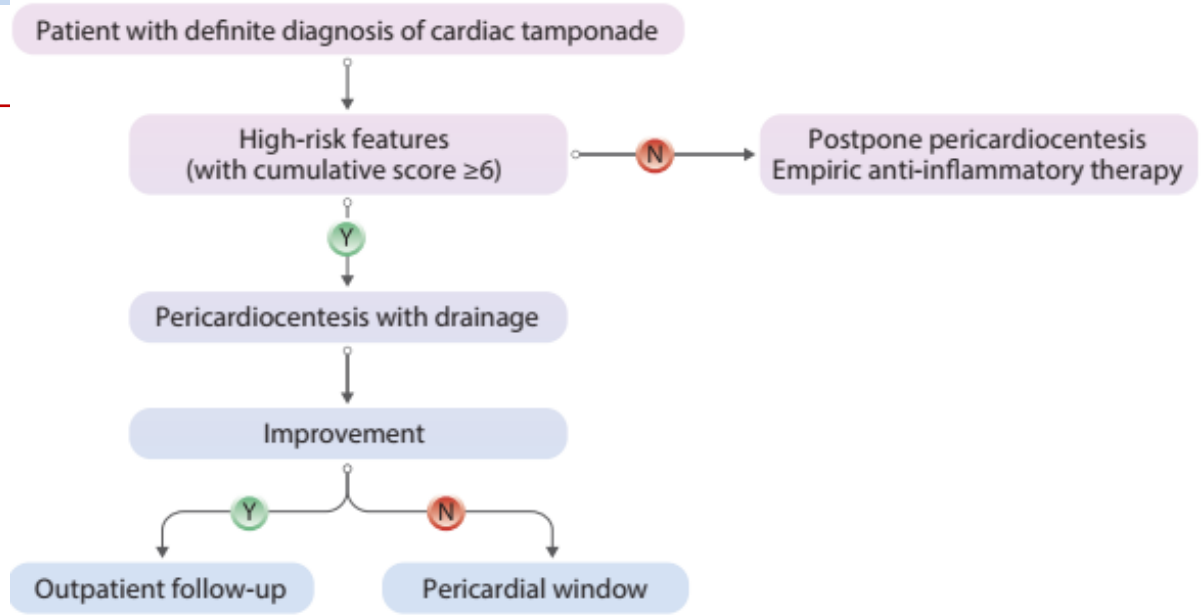
Table 8 Causes of cardiac tamponade

Common causes (in order of relative frequency):

(1) Neoplasm/malignancy
(2) Iatrogenic/trauma
(3) Pericarditis
(4) Tuberculosis (most common in developing countries)

Less common causes (in order of relative frequency):

(1) Collagen vascular diseases (systemic lupus erythematosus, rheumatoid arthritis, scleroderma)
(2) Pericardial injury syndrome
(3) Acute myocardial infarction
(4) Aortic dissection
(5) Uraemia
(6) Bacterial infection
(7) Pneumopericardium



Criteria for triage for patients with pericardial effusion at risk for progression to cardiac tamponade					
Aetiology		**Clinical presentation**		**Imaging**	
Malignant disease	2	Dyspnoea/tachypnoea	1	Cardiomegaly on chest x-ray	1
Tuberculosis	2	Orthopnoea	3	Electrical alternans on ECG	0.5
Recent radiotherapy	1	Hypotension (CBP <95 mmHg)	0.5	Microvoltage on ECG	1
Recent viral infection	1	Progressive sinus tachycardia	1	Circumferential large PEff	3
Recurrent PEff	1	Oliguria	1	Moderate PEff	1
Chronic terminal renal failure	1	Pulsus paradoxus (>10 mmHg)	2	Small PEff	-1
Immunosuppression	1	Pericardial chest pain	0.5	Right atrial collapse	1
Dysthyroidism	-1	Pericardial friction rub	0.5	IVC dilated not collapsible	1.5
Systemic autoimmune disease	-1	Rapid worsening of symptoms	2	Right ventricular collapse	1.5
		Slow disease evolution	-1	Left atrial collapse	2
				Mitral/tricuspid respiratory flow variations	1
				Swinging heart	1

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Srdeční tamponáda

Recommendations	Class[a]	Level[b]
Pericardiocentesis (echocardiography-, CT-, or fluoroscopy-guided) is recommended for cardiac tamponade, or suspected bacterial or neoplastic pericarditis, or symptomatic moderate to large pericardial effusion despite medical therapy.	I	C
Surgical pericardial drainage is recommended in patients with pericardial effusion when percutaneous pericardiocentesis is not feasible or with purulent pericardial effusion to allow complete drainage and to prevent constriction.	I	C
Surgical pleuro-pericardial window is recommended in patients with relapsing pericardial effusion despite medical therapy.	I	C

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Perikarditida v těhotenství, při reprodukci

12.3. Pregnancy, lactation, and reproductive issues

High-dose aspirin or NSAIDs, such as ibuprofen and indomethacin, can be used up to the 20th week of gestation. Corticosteroids at the minimal effective dose can be given in patients with active pericarditis throughout pregnancy along with NSAIDs and in selected cases colchicine. Azathioprine and IVIG are compatible with pregnancy and breastfeeding. All these medications, apart from high-dose aspirin, may be used during lactation. Colchicine is compatible with pregnancy and breastfeeding, and it can be continued throughout pregnancy to prevent recurrences.[664,667–669] The use of IL-1 blockers during pregnancy

NSAID, aspirin – do 20 gestačního týdne ano

Kortikoidy – ano po celou dobu těhotenství
podávat v minimální efektivní dávce ☺

Kolchicin – ve vybraných případech ? , možné podávat I v laktaci

There are no specific limitations for men with pericarditis who are planning to have children because they can safely continue therapy.[667,668]

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take home message

Zánětlivý myoperikardiální syndrom je pracovní diagnosa, finální dg.

1. Myokarditida
2. Perimyokarditida - dominuje myokard, léčíme jako myokarditidu
3. Myoperikarditida - dominuje perikard, léčíme jako perikarditidu
4. Perikarditida

take home message

nebát se léčit pacienty protizánětlivou léčbou

nevysazovat příliš rychle a brzo

specifická léčba pro recidivisty – anakinra

nová skupina perikarditid - post cardiac injury syndrom

purulentní perikarditidy – intraperikardiální instilace

děkuji za pozornost

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I. INTERNÍ KARDIOANGIOLOGICKÁ KLINIKA FNUSA A LF MU