AKS – časná farmakologická léčba

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2023 ESC Guidelines for the management of acute coronary syndromes

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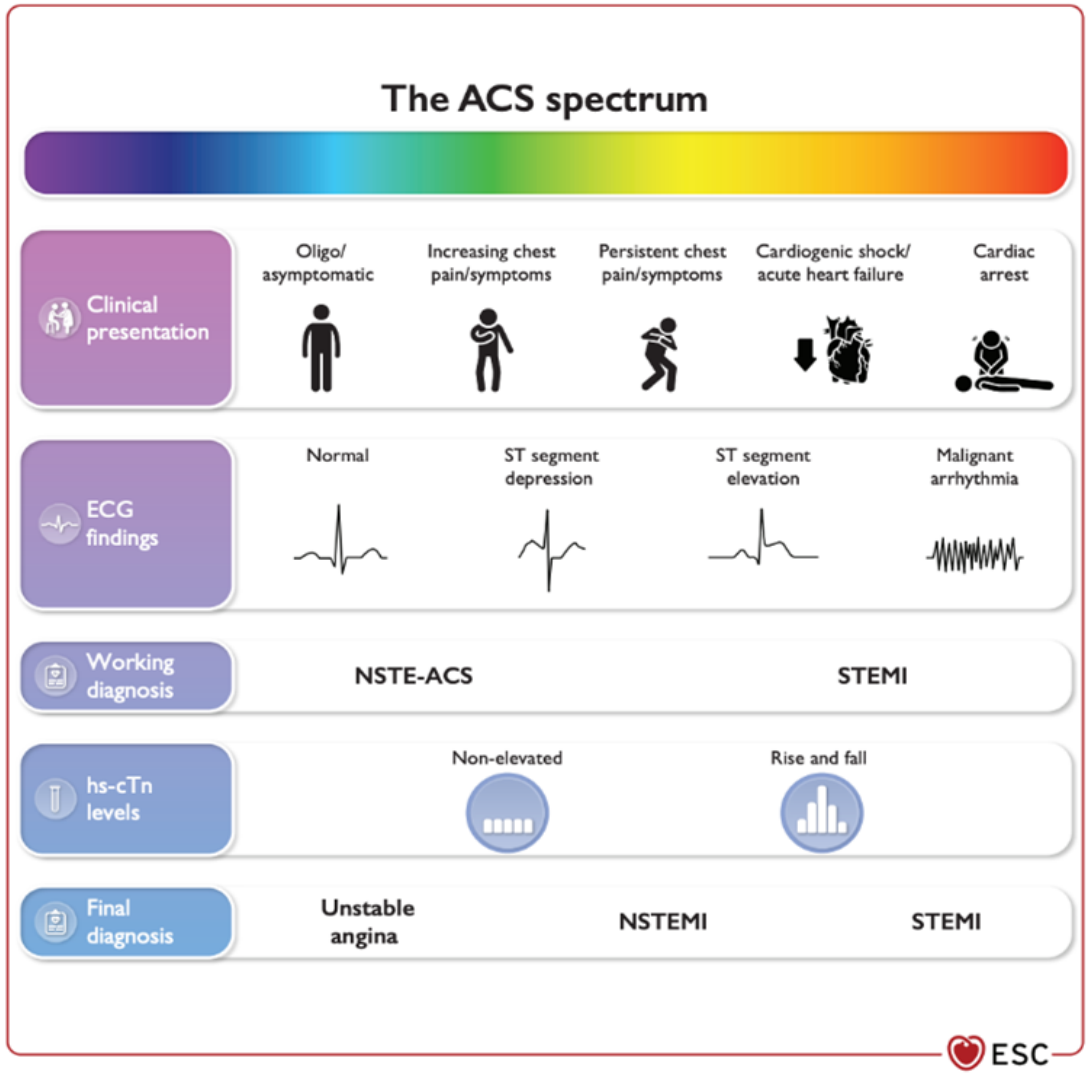


1) STEMI / NSTEMI s pokračující ischemií nebo HD nestabilitou

2) NSTEMI bez pokračující ischemie nebo HD nestability

Zmírnění hypoxémie a symptomů

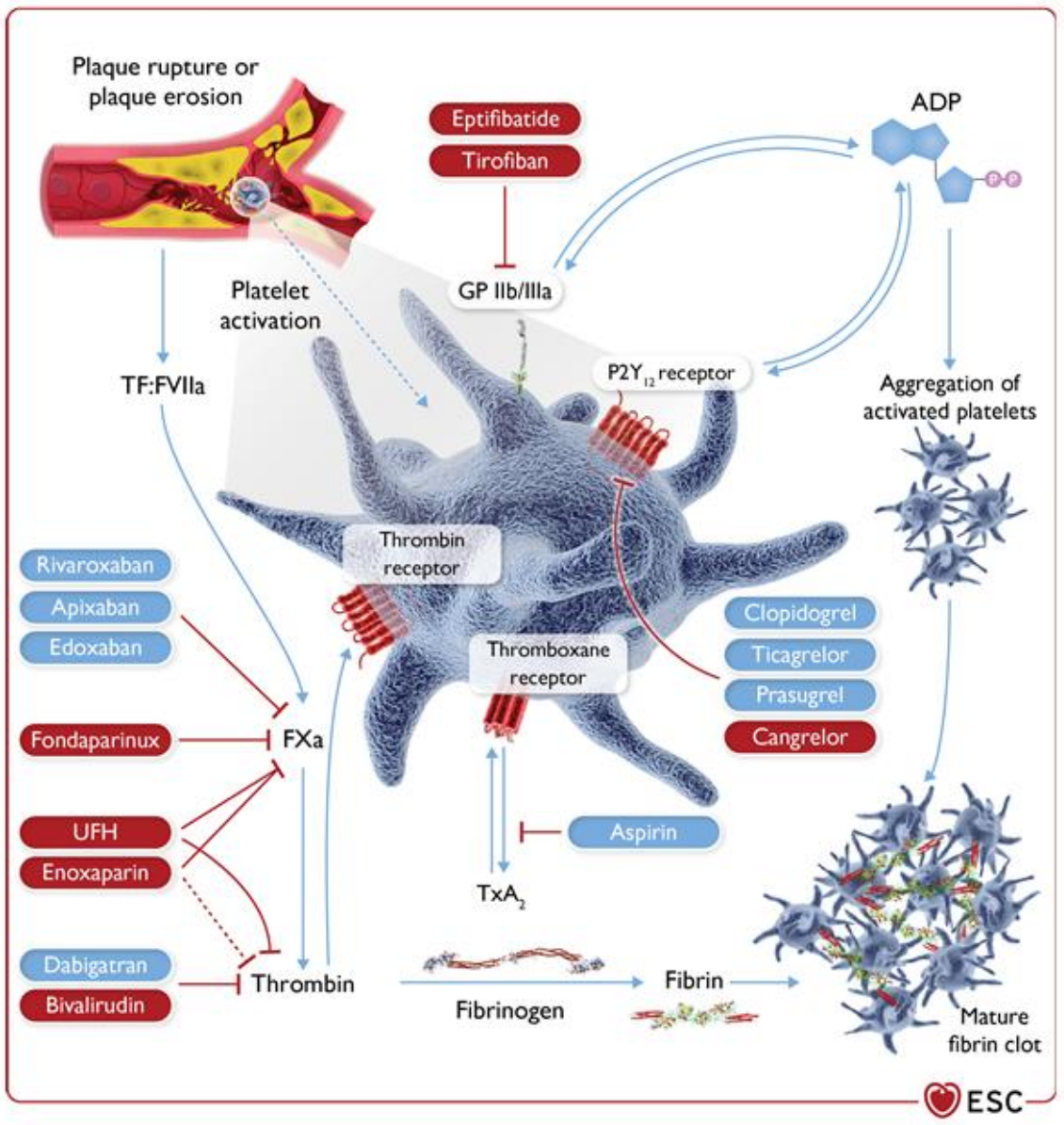
Oxygen when SaO2 <95% | OXYGEN | Oxygen when SaO2 <90% AVOID, DETO2X

Doporučení	Třída	Úroveň
Hypoxie		
Aplikace kyslíku u pacientů s hypoxemií ($SaO_2 < 90\ \%$)	I	C
U pacientů s $SaO_2 \geq 90\ \%$ není rutinní aplikace kyslíku doporučena.	III	A
Symptomy		
Titrovaná i.v. aplikace opioidů.	IIa	C
Podání benzodiazepinu u vysoce úzkostných pacientů	IIa	C

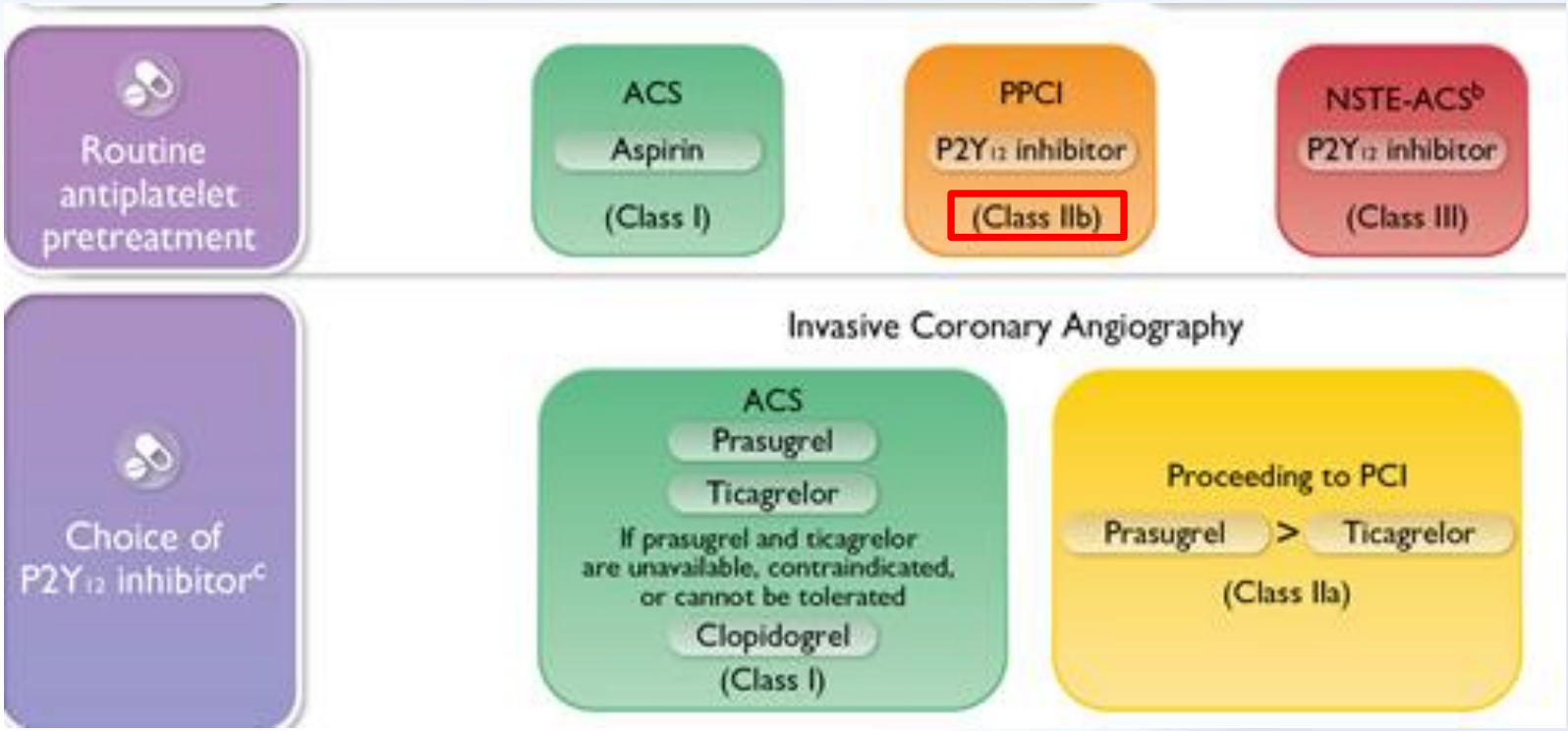
STEMI - betablokátory v PNP

Doporučení	Třída	Úroveň
I.v. BB (preferenčně metoprolol) při stanovení diagnózy u pacientů s indikací PPCI, s STK > 120 mm Hg, bez známek ASS a bez KI	IIa	A
I.v. aplikace BB není doporučena u pacientů s hypotenzí, ASS, AV blokádou či těžkou bradykardií.	III	B

IM 1. typu = IM na podkladě koronární aterotrombózy při disrupci AS plátu (ruptura nebo eroze)



Antiagregancia



Pretreatment with a $P2Y_{12}$ receptor inhibitor may be considered in NSTE-ACS patients who are not expected to undergo an early invasive strategy (<24 h) and do not have HBR.	IIb	C
GP IIb/IIIa receptor antagonists should be considered if there is evidence of no-reflow or a thrombotic complication during PCI.	IIa	C
In $P2Y_{12}$ receptor inhibitor-naïve patients undergoing PCI, cangrelor may be considered.	IIb	A
In older ACS patients, especially if HBR, clopidogrel as the $P2Y_{12}$ receptor inhibitor may be considered.	IIb	B

Antiagregancia – dávkování, kontraindikace

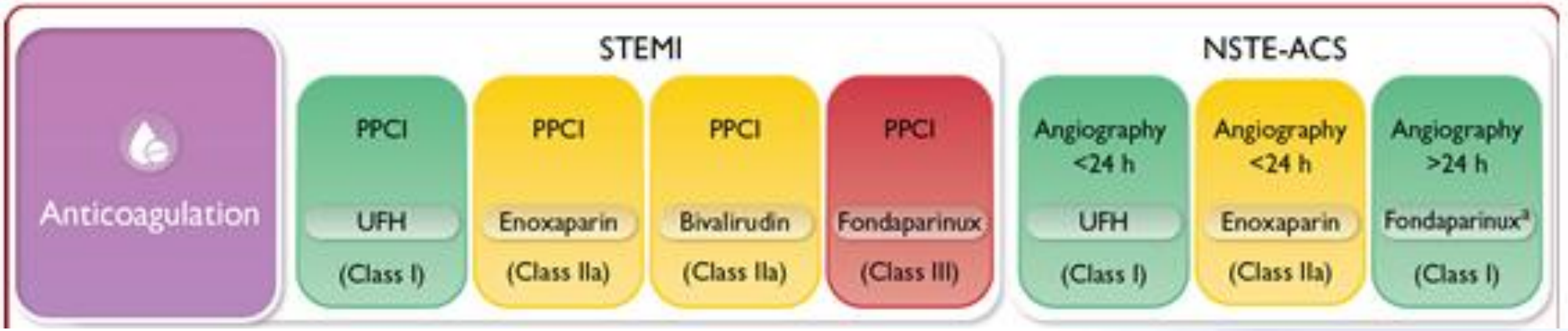
Tabulka 9 – Doporučené dávky antitrombotik v akutní péči u pacientů s chronickým onemocněním ledvin

Látka	Normální renální funkce a stadium CKD 1–3 (eGFR ≥ 30 ml/min/1,73 m²)	Stadium CKD 4 (eGFR 15 až < 30 ml/min/1,73 m²)	Stadium CKD 5 (eGFR < 15 ml/min/1,73 m²)
ASA	Nasycovací dávka 150–300 mg p.o., následně udržovací dávka 75–100 mg/den	Bez úpravy dávky	Bez úpravy dávky
Clopidogrel	Nasycovací dávka 300–600 mg p.o., následně 75 mg/den	Bez úpravy dávky	Žádné informace nejsou k dispozici
Ticagrelor	Nasycovací dávka 180 mg p.o., následně 90 mg dvakrát denně	Bez úpravy dávky	Nedoporučuje se
Prasugrel	Nasycovací dávka 60 mg p.o., následně 10 mg/den	Bez úpravy dávky	Nedoporučuje se

U pacientů < 60 kg: udržovací dávka 5 mg/den

	KONTRAINDIKACE
TICAGRELOR a PRASUGREL	Hemoragická CMP v anamnéze, akutní krvácení, onemocnění jater, trvalá antikoagulační terapie (warfarin nebo NOAC)
PRASUGREL navíc	CMP/TIA v anamnéze, věk > 75let,

Antikoagulancia

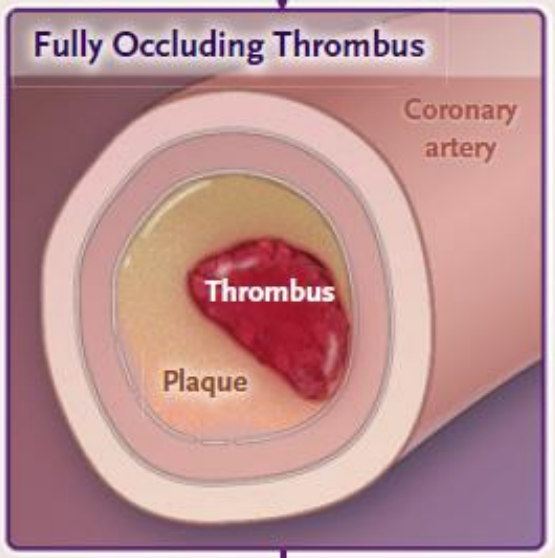


Parenteral anticoagulation is recommended for all patients with ACS at the time of diagnosis.	I	A
Routine use of a UFH bolus (weight-adjusted i.v. bolus during PCI of 70–100 IU/kg) is recommended in patients undergoing PCI.	I	C
Intravenous enoxaparin at the time of PCI should be considered in patients pretreated with subcutaneous enoxaparin.	IIa	B
Discontinuation of parenteral anticoagulation should be considered immediately after an invasive procedure.	IIa	C

STEMI - antitrombotická léčba

Doporučení	Třída	Úroveň
Protidestičková léčba		
Předléčení P2Y12 inh. (ticagrelor 180 mg n. prasugrel 60 mg), příp. clopidogrel (600 mg), **může být** před primární PCI zváženo	IIb	B
ASA: p.o. 150-300 mg nebo 75-250 mg i.v.	I	B
Antikoagulační léčba		
Je doporučeno podání UFH (70-100 j/kg i.v.)	I	C

Pro pacienty na NOAK n. VKA při INR < 2,5:
ASA + UFH 70 j/kg i.v.



Nástroje pro stratifikaci rizika rozvoje krvácení a ischémie

	PRECISE-DAPT score	DAPT score	
Time of use	At the time of coronary stenting	After 12 months of uneventful DAPT	
DAPT duration strategies assessed	Short DAPT (3–6 months) vs. Standard/long DAPT (12–24 months)	Standard DAPT (12 months) vs. Long DAPT (30 months)	
Score calculation	HB ≥2 11-5 11 10-5 ≤10 WBC ≤5 8 10 12 14 16 18 ≥20 Age ≤50 60 70 80 ≥90 CrCl ≥100 80 60 40 20 0 Prior Bleeding No Yes Score Points 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30	Age	
		≥75	−2 pt
		65 to <75	−1 pt
		<65	0 pt
		Cigarette smoking	+1 pt
		Diabetes mellitus	+1 pt
		MI at presentation	+1 pt
		Prior PCI or prior MI	+1 pt
		Paclitaxel-eluting stent	+1 pt
		Stent diameter <3 mm	+1 pt
		CHF or LVEF <30%	+2 pt
		Vein graft stent	+2 pt
Score range	0 to 100 points	−2 to 10 points	
Decision making cut-off suggested	Score ≥25 → Short DAPT Score <25 → Standard/long DAPT	Score ≥2 → Long DAPT Score <2 → Standard DAPT	

Criteria for HBR according to the Academic Research Consortium for High Bleeding Risk at the time of PCI

Major criterion for ARC-HBR include clinical diagnoses, which confer BARC 3 or 5 bleeding risk ≥4% at 1 year or a risk of intracranial hemorrhage (ICH) of ≥1% at 1 year:

1. Long-term oral anticoagulation
2. Severe or end-stage chronic kidney disease (CKD) (estimated glomerular filtration rate [eGFR] <30 ml/min)
3. Hemoglobin <11 g/dl
4. Spontaneous bleeding requiring hospitalization and transfusion in the past 6 months
5. Moderate to severe baseline thrombocytopenia (platelet count <100 x 109/L)
6. Chronic bleeding diathesis
7. Liver cirrhosis with portal hypertension
8. Active cancer in the past 12 months
9. Previous spontaneous ICH (at any time)
10. Previous traumatic ICH within the past 12 months
11. Presence of known brain arteriovenous malformations
12. Moderate to severe ischemic stroke within the past 6 months
13. Nondeferrable major surgery on dual antiplatelet therapy
14. Recent major surgery or trauma within 30 days before PCI

HBR: ≥ 1 major or
≥ 2 minor criteria

Minor criterion for ARC-HBR is defined as any criterion that, in isolation, is considered to confer increased bleeding risk, with a BARC 3 or 5 bleeding rate of <4% at 1 year:

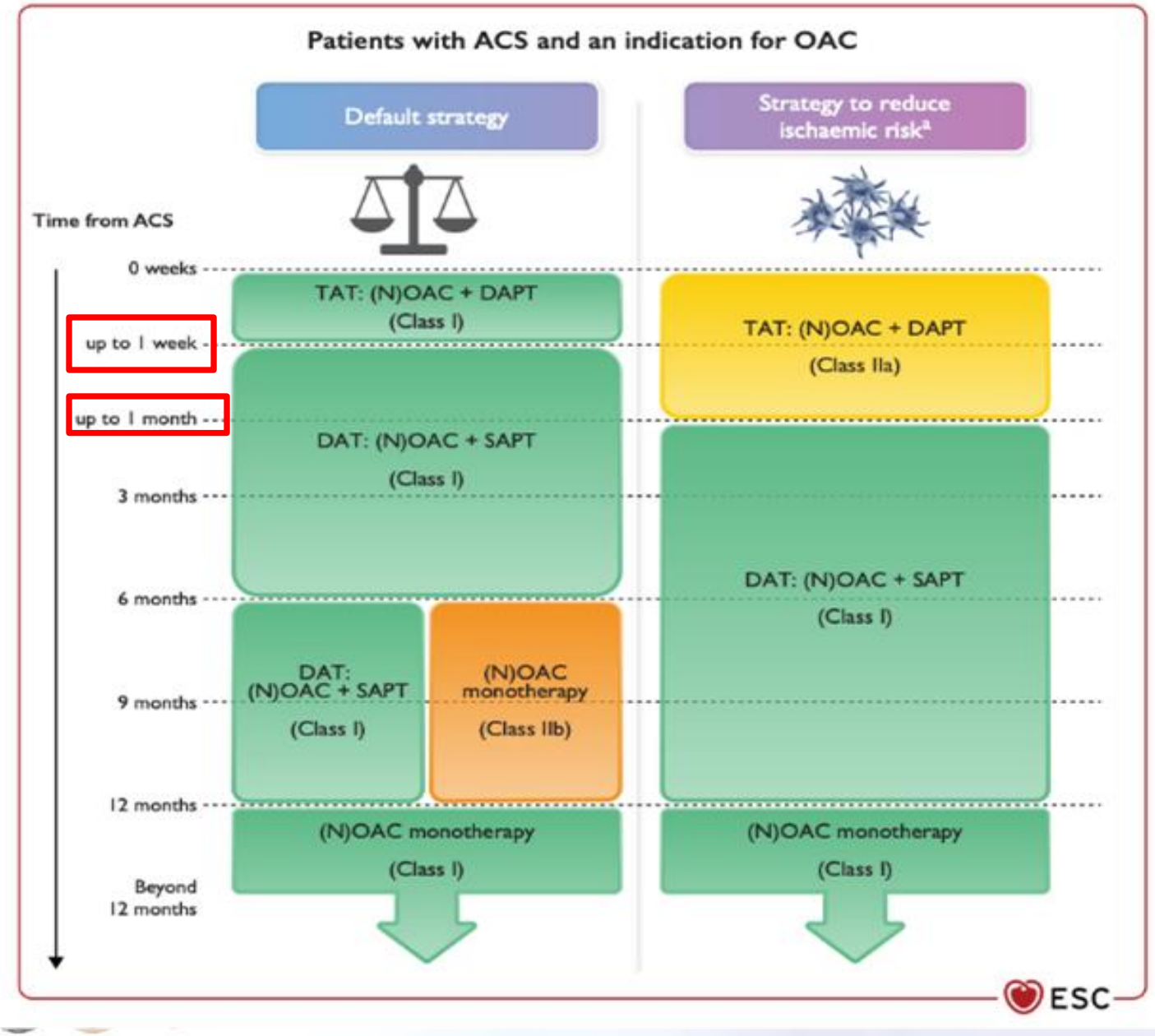
1. Age >75 years
2. Moderate CKD (eGFR 30-59 ml/min)
3. Hemoglobin 11-12.9 g/dl for men and 11-11.9 g/dl for women
4. Spontaneous bleeding requiring hospitalization or transfusion within the past 12 months not meeting major criterion
5. Long-term use of oral nonsteroidal anti-inflammatory drugs or steroids
6. Any ischemic stroke at any time not meeting major criterion

Tabulka 5 – Rizikové faktory dalších ischemických příhod po implantaci stentu
• Předchozí trombóza stentu při adekvátní antiagregační léčbě
• Stenting poslední zbývající průchodné koronární tepny
• Difuzní postižení více tepen, zejména u diabetiků
• Chronické onemocnění ledvin (tj. clearance kreatininu < 60 ml/min)
• Implantace nejméně tří stentů
• Ošetření nejméně tří lézí
• Bifurkace s implantací dvou stentů
• Celková délka stentu > 60 mm
• PCI chronického uzávěru (CTO)

komplexní PCI

- rekurentní IM
- předčasná, akcelerovaná n. generalizovaná AS
- systémová inflamace (HIV, SLE, chron. artritida)

AKS a indikace OAK



Kombinace antiagregace + OAK

Recommendations	Class	Level
Combining antiplatelets and OAC		
As the default strategy for patients with atrial fibrillation and CHA_2DS_2-VASc score ≥1 in men and ≥2 in women, after up to 1 week of triple antithrombotic therapy following the ACS event, dual antithrombotic therapy using a NOAC at the recommended dose for stroke prevention and a single oral antiplatelet agent (preferably clopidogrel) for up to 12 months is recommended.	I	A
Combining antiplatelets and OAC (continued)		
When rivaroxaban is used and concerns about HBR prevail over ischaemic stroke, rivaroxaban 15 mg o.d. should be considered in preference to rivaroxaban 20 mg o.d. for the duration of concomitant SAPT or DAPT.	IIa	B
In patients at HBR, dabigatran 110 mg b.i.d. should be considered in preference to dabigatran 150 mg b.i.d. for the duration of concomitant SAPT or DAPT, to mitigate bleeding risk.	IIa	B
In patients with an indication for OAC with VKA in combination with aspirin and/or clopidogrel, careful regulation of the dose intensity of VKA with a target INR of 2.0–2.5 and a time in the therapeutic range >70% should be considered.	IIa	B

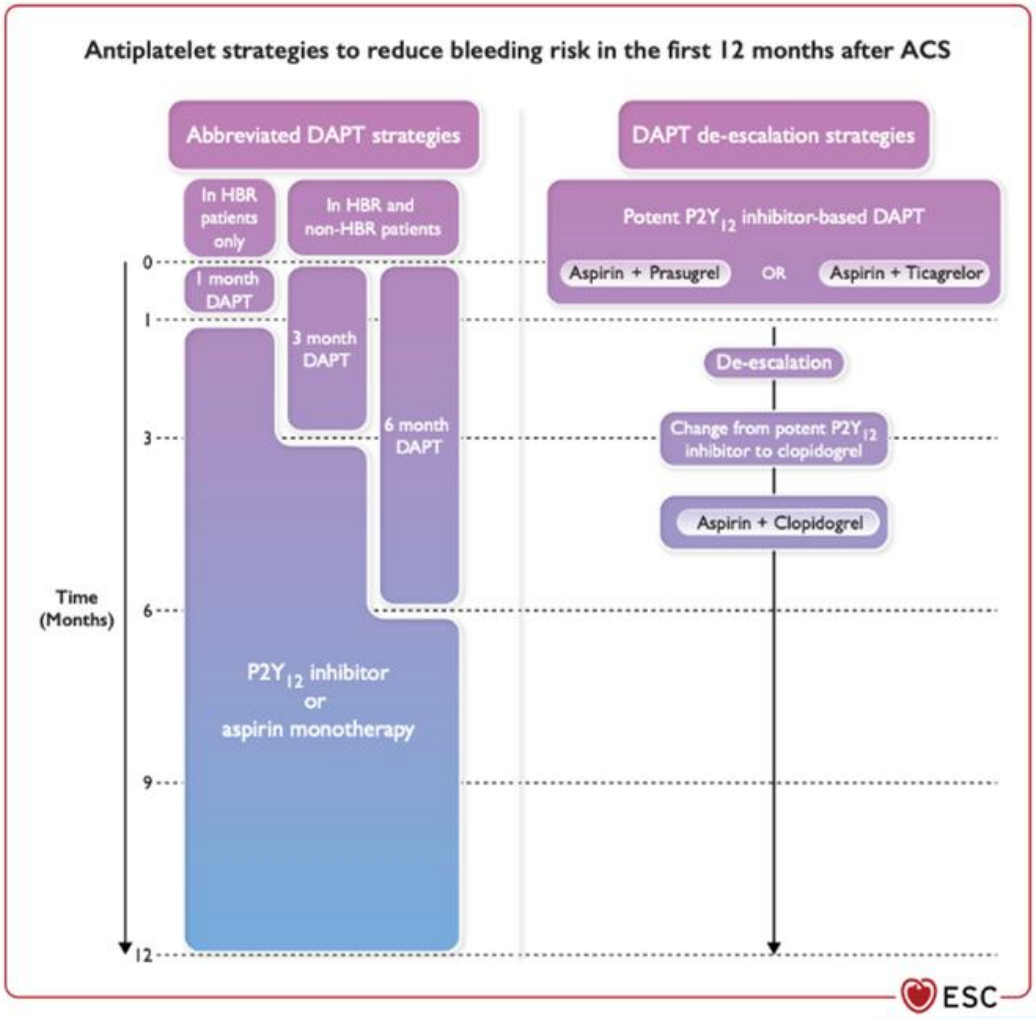
Suggested strategies to reduce bleeding risk related to percutaneous coronary intervention (1)

Strategies
• Anticoagulant doses adjusted to body weight and renal function, especially in women and older patients
• Radial artery approach as default vascular access
• Proton pump inhibitors in patients on dual antiplatelet therapy at higher-than-average risk of gastrointestinal bleeds (i.e. history of gastrointestinal ulcer/haemorrhage, anticoagulant therapy, chronic non-steroidal anti-inflammatory drug/corticosteroid use), or two or more of: a. Age ≥65 years b. Dyspepsia c. Gastro-oesophageal reflux disease d. *Helicobacter pylori* infection e. Chronic alcohol use

Recommendations	Class	Level
Recommendations for acute coronary syndrome comorbid conditions (continued)		
Aspirin is not recommended in cancer patients with a platelet count <10 000/µL.	III	C
Clopidogrel is not recommended in cancer patients with a platelet count <30 000/µL.	III	C
In ACS patients with cancer and <50 000/µL platelet count, prasugrel or ticagrelor are not recommended.	III	C

Závěry

- pilířem časné farmakologické léčby AKS jsou antitrombotika
- spolupráce a společný protokol ze ZZS
- časná hospitalizační fáze :
  - individualizace, zhodnocení rizika krvácení a ischémie
  - BB, ACEI, statiny



Recommendations	Class[a]	Level[b]
Shortening/de-escalation of antithrombotic therapy		
In patients who are event-free after 3–6 months of DAPT and who are not high ischaemic risk, single antiplatelet therapy (preferably with a $P2Y_{12}$ receptor inhibitor) should be considered.[264,268–271,273,274,276,313,320]	IIa	A
De-escalation of $P2Y_{12}$ receptor inhibitor treatment (e.g. with a switch from prasugrel/ticagrelor to clopidogrel) may be considered as an alternative DAPT strategy to reduce bleeding risk.[279–282,321,322]	IIb	A
In HBR patients, aspirin or $P2Y_{12}$ receptor inhibitor monotherapy after 1 month of DAPT may be considered.[276,313]	IIb	B
De-escalation of antiplatelet therapy in the first 30 days after an ACS event is not recommended.[238,323]	III	B
Prolonging antithrombotic therapy		
Discontinuation of antiplatelet treatment in patients treated with an OAC is recommended after 12 months.[324,325]	I	B
Adding a second antithrombotic agent to aspirin for extended long-term secondary prevention should be considered in patients with high ischaemic risk and without HBR[c].[314–318]	IIa	A
Adding a second antithrombotic agent to aspirin for extended long-term secondary prevention may be considered in patients with moderate ischaemic risk and without HBR[c].[314–318]	IIb	A
$P2Y_{12}$ inhibitor monotherapy may be considered as an alternative to aspirin monotherapy for long-term treatment.[326,327]	IIb	A

P2Y12 inhibitory - switch