

Percutaneous Transluminal Angioplasty

thumb|260px|Princip PTCA thumb|250px|Selektivní angiografie a. renalis po proběhlé PTR A **Percutaneous Transluminal Angioplasty** (PTA) is an invasive treatment where we use a special **balloon catheter**, an occluded blood vessel is penetrated through behind the stenosis. The occluded blood vessel is then mechanically **dilated** using the balloon. After the dilatation happened, there might be also **stent implantation** or stentgraft (stenting) implantation. The most common causes of blood vessel stenosis are atherosclerosis, fibromuscular dysplasia, status post recurrent vessel traumas, et cetera.

PTA is used in case of stenosis in extremity artery, renal artery (PTR A, percutaneous transluminal renal angioplasty), coronary artery (PTCA, percutaneous transluminal coronary angioplasty), supraaortal arteries. PTA can be also used in case of a major vein stenosis or A-V shunt stenosis in dialyzed patients.

Indication

PTA is generally indicated for short circular stenoses.

- **Extremity arteries** – ICHDK type II.B – IV, to improve blood circulation before planned bypass, bypass stenosis.
- **Supraaortal arteries** – symptoms are ischemia of upper extremities and brain (stenosis aa. caroticae, vertebrobasilar insufficiency).
- **PTRA – renovascular hypertension** caused by atherosclerosis or fibromuscular dysplasia.
- **PTCA** – stable angina pectoris non responding to therapy, unstable angina pectoris, ACS, stenosis of bypass connecting aorta and coronary arteries.
- **Veins** – stenosis of dialyzation shunt, vena cava superior syndrome.

Contraindications

There are **contraindications** divided to absolute and relative:

1. **absolute** – unstable patient, hemodynamically major stenosis, pro-bleeding state;
2. **relative** – stenosis is too major.

Technique

1. Blood coagulation parameters (INR, APTT, thrombocytes count).
2. Antiagregans prior to the surgery is given (Template:HVLP, Template:HVLP) and calcium channel blocker (Template:HVLP – vasospasm prevention).
3. Prevention of anaphylaxis in case of adverse allergic reaction to contrasting color (antihistamines, corticosteroids).
4. Vessel puncture (mainly a. femoralis).
5. Heparin administration.
6. View of the affected vessel area, insertion of the leading wire and via the wire the catheter is inserted.
7. Balloon insuflation, laesion dilatation (balloon has to stay at least 1-2 minutes inflated).
8. Control angiography.
9. Post surgery continual administration of heparin s.c. for two days, min. 6 months post surgery antiagregans (acid acetylsalicylic, Anopyrin®).

Complications

- Central (contrasting color) – anaphylaxis, renal failure.
- In puncture location – hematoma, pseudoaneurysm, arteriovenous fistula.
- In PTA location – dissection, spasm, peripheral embolization, vessel rupture is extremely rare.

Odkazy

Související články

- Akutní tepenné uzávěry
- Angioinvasivní léčba tepenných uzávěrů a stenóz

Zdroj

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Použitá literatura

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Kategorie:Vložené články Kategorie:Chirurgie Kategorie:Kardiologie Kategorie:Angiologie Kategorie:Vnitřní lékařství
Kategorie:Radiodiagnostika