






# Ablacija supraventrikularne tahikardije kod trudnica bez uporabe rendgenske fluoroskopije: prikaz slučaja

## Ablation for supraventricular tachycardia in a pregnant woman without using X-ray fluoroscopy: a case report

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**Uvod:** Perkutana kateterska i uglavnom radiofrekventna (RF) ablacija supraventrikularnih tahikardija (SVT) uvriježen je način liječenja simptomatskih bolesnika. Uobičajeno osnovno sredstvo za vođenje intrakardijalne manipulacije kateterom jest fluoroskopija rendgenskim zrakama.<sup>1</sup> Rizici izlaganja pacijenata ionizirajućem, rendgenskom zračenju dobro su poznati, a posebice su važni u pedijatrijskim slučajevima ili slučajevima koji uključuju trudnice. Nedavno je, uz pomoć elektroanatomskih (3D) sustava mapiranja, omogućeno obavljanje tih istih postupaka bez uporabe rendgenske fluoroskopije, tzv. «zero fluoro». Ovo je prikaz slučaja s pregledom nekih intraproceduralnih aspekata tijekom radiofrekventne ablacije (RF) «zero fluoro» izvedene kod 26-godišnje trudnice u Kliničkom bolničkom centru Split.

**Prikaz slučaja:** 26-godišnja bolesnica, u šestom mjesecu prve trudnoće zaprimljena je s višestrukim simptomatskim epizodama supraventrikularne tahikardije, koja je bila nekontrolirana uz terapiju atenololom. Provedeno je elektrofiziološko ispitivanje pristupom kroz desnu preponsku venu i umetnuti su dijagnostički kateteri u koronarni sinus i desnu klijetku bez uporabe rendgenskih zraka. Tipična je AVNRT inducirana bez poteškoća i odlučeno je da se nastavi s RF-ablacijom s namjerom da se održi načelo «zero fluoro». Dvije su radiofrekventne primjene (30-40W) provedene u regiji nodalnog AV „sporog puta” samo uz pomoć upravljanja 3D sustavom mapiranja. RF primjena rezultirala je gubitkom kontinuiranog provođenja sporim putem i time je aritmiju učinila neinducibilnom, čak i uz poticanje izoproterenolom. Postupak je ukupno trajao 47 minuta, uključujući i 15 minuta čekanja radi krajnjeg oporavka tkiva. Nisu zabilježene komplikacije te je dan nakon toga bolesnica bila otpuštena. Bolesnici se nisu pojavljivali aritmije sve do porođaja koji je protekao bez komplikacija.

**Zaključak:** «Zero fluoro» pristup prilikom radiofrekventne (RF) ablacije izvediv je u bolesnika sa simptomatskim epizodama SVT-a. To bi trebao biti primarni pristup kod osjetljivih bolesnika poput pedijatrijskih slučajeva ili slučajeva koji uključuju trudnice.

**Introduction:** Percutaneous catheter, mostly radiofrequency (RF) ablation for supraventricular tachycardias (SVT) is an established way of treating symptomatic patients. Traditionally, essential tool for guiding intracardiac catheter manipulation was X ray fluoroscopy.<sup>1</sup> The risks of exposing patients to ionizing, X ray radiation are well known and are of particular concern in pediatric cases or cases involving pregnant women. Recently, with the help of electroanatomical (3D) mapping systems, a possibility to perform these procedures without the use of X ray fluoroscopy, so called «zero fluoro», emerged. This is a case report with an overview of some intraprocedural aspects of «zero fluoro» RF ablation procedure performed in 26 years old pregnant women at University Hospital Centre Split.

**Case report:** The patient was 26 years old primigravida, in sixth month of gestation, with the multiple symptomatic SVT episodes, uncontrolled under atenolol therapy. EP study was performed via right groin venous access and diagnostic catheters inserted in a coronary sinus and right ventricle without the use of X ray. Typical AVNRT was easily inducible and decision was made to proceed with the RF ablation with the intention of maintain «zero fluoro» principle. Couple RF applications (30-40W) were placed in AV nodal slow pathway region under only 3D mapping system guidance. RF application resulted in loss of continuous slow pathway conduction and thus rendered arrhythmia noninducible, even with isoproterenol provocation. Overall procedure time was 47 minutes, including 15 minutes waiting period for eventual tissue recovery. No complications occurred, and the patient had been discharged the day after. She stood arrhythmia free till her labour that had gone uneventful.

**Conclusion:** Zero fluoro approach to RF ablation in patients with symptomatic SVT episodes is feasible. It should be preferred approach in vulnerable population such as pediatric cases or cases involving pregnant women.

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### LITERATURE

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