

SLUČAJNO OTKRIĆE KONTRALATERALNOG RAKA DOJKE U UZORKU KONTRALATERALNE PROFILAKTIČKE MASTEKTOMIJE: PRIKAZ SLUČAJA

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SAŽETAK

Uvod/Cilj: Profilaktička mastektomija može se izvesti kod pacijentkinja sa visokim genetskim ili porodičnim rizikom, a unilateralno uz terapijsku mastektomiju kontralateralne dojke. Iako se maligni proces ne očekuje u profilaktički uklonjenom tkivu, histopatološki nalazi ponekad otkrivaju incidentne karcinome koji mogu uticati na dalji terapijski pristup. Cilj ove studije je da se prikaže klinički slučaj incidentnog otkrića kontralateralnog karcinoma dojke (KRD) u uzorku tkiva dobijenom kontralateralnom profilaktičkom mastektomijom (KPM) kod 46-godišnje pacijentkinje, kod koje je inicijalno dijagnostikovano duktalni karcinom in situ (DCIS) u suprotnoj dojci.

Prikaz slučaja: Prikazujemo 46-godišnju pacijentkinju kod koje je inicijalno dijagnostikovano DCIS desne dojke. Nakon što je odbila adjuvantnu radioterapiju, odlučila se za bilateralnu mastektomiju sa očuvanjem kompleksa bradavica i direktnu rekonstrukciju implantima. Histopatološki nalaz desne dojke potvrdio je DCIS sa fokalnim invazivnim komponentama, dok su u kontralateralnoj dojci neočekivano otkrivena tri odvojena mikroskopska fokusa DCIS-a, uz prisutne fibrocistične promene i atipičnu duktalnu hiperplaziju.

Zaključak: Iako kontralateralna profilaktička mastektomija ne poboljšava uvek ukupno preživljavanje, može doprineti individualizovanom smanjenju rizika, jednostavnijem praćenju i smanjenju anksioznosti, a posebno unapređenju kvaliteta života. Prikazani slučaj potvrđuje njen potencijal u otkrivanju okultnih maligniteta i značaj multidisciplinarnog pristupa u planiranju lečenja.

Ključne reči: karcinom dojke, kontralateralna profilaktička mastektomija, prikaz slučaja

Uvod

Nedavni epidemiološki podaci ukazuju da prevalencija raka dojke u Srbiji dostiže 229,7 slučaja na 100.000 žena reproduktivnog doba (15-49 godina), pri čemu se više stope tipično primećuju u urbanim opštinama, gde važnu ulogu igraju razlike u dostupnosti zdravstvene zaštite, demografskom sastavu i gustini naseljenosti (1). Profilaktička mastektomija može se izvesti bilateralno kod žena sa visokim genetskim ili porodičnim rizikom od razvoja raka dojke, ili unilateralno kada se izvodi zajedno sa terapijskom mastektomijom zbog neinvazivne lezije u suprotnoj dojci (2). Za razliku od tradicionalne radikalne mastektomije, mastektomija sa

poštedom bradavice, koja se naziva i totalna mastektomija sa poštedom kože, zadržava kompleks bradavice i areole, kao i kožni omotač dojke, istovremeno održavajući onkološku sigurnost (3).

Čak i u odsustvu bilo kakvih kliničkih ili radioloških dokaza maligniteta, neočekivano histopatološko otkrivanje kontralateralnog raka dojke (KRD) u uzorcima dobijenim kontralateralnom profilaktičkom mastektomijom (KPM) može uticati na dalje odluke o lečenju, prognozi i preživljavanju. Kako navodi Kim i saradnici, incidencija KRD se smanjila tokom poslednje decenije, dok su KPM procedure postale sve češće nakon dijagnoze uni-

INCIDENTAL FINDING OF CONTRALATERAL BREAST CANCER IN CONTRALATERAL PROPHYLACTIC MASTECTOMY SPECIMEN: A CASE REPORT

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ABSTRACT

Introduction/Aim: Prophylactic mastectomy may be performed in women with high genetic or familial risk, or unilaterally alongside therapeutic mastectomy. Although malignancy is not expected in prophylactic specimens, incidental contralateral breast cancer (CBC) may alter management and prognosis. The aim of this study is to present a clinical case of the incidental finding of CBC in a tissue specimen obtained through contralateral prophylactic mastectomy (CPM) in a 46-year-old patient who had been initially diagnosed with ductal carcinoma in situ (DCIS) in the opposite breast.

Case report: We report a 46-year-old woman initially diagnosed with DCIS of the right breast. After declining adjuvant radiotherapy, she opted for bilateral nipple-sparing mastectomy with direct-to-implant reconstruction. Histopathology confirmed DCIS with a focal invasive component in the right breast and unexpectedly revealed three microscopic focuses of DCIS in the contralateral breast, alongside fibrocystic changes and atypical ductal hyperplasia.

Conclusion: Although CPM does not consistently improve overall survival, it can contribute to individualized risk reduction, simplified surveillance, reduced anxiety in selected patients, as well as to improving the quality of life. This case underscores its diagnostic value in detecting occult contralateral malignancy and reinforces the need for personalized surgical planning within a multidisciplinary framework.

Keywords: breast cancer, contralateral prophylactic mastectomy, case report

Introduction

Recent epidemiological data indicates that the prevalence of breast cancer in Serbia reaches 229.7 cases per 100,000 women of reproductive age (15-49), with higher rates typically observed in urban municipalities, where difference in healthcare accessibility, demographic composition, and population density plays an important role (1). Prophylactic mastectomy can be performed bilaterally in women at high genetic or familial risk of developing breast cancer, or unilaterally when carried out alongside therapeutic mastectomy for a noninvasive lesion in the opposite breast (2). In contrast to traditional radical mastectomy, nipple-

sparing mastectomy which is also referred to as total skin-sparing mastectomy retains the nipple-areola complex and the breast skin envelope while maintaining oncologic safety (3).

Even in the absence of any clinical or radiological evidence of malignancy, unexpected histopathological detection of contralateral breast cancer (CBC) in specimens from contralateral prophylactic mastectomy (CPM) can influence further management decisions, prognosis, and disease-specific survival. As reported by Kim et al., CBC incidence has decreased over the past decade, whereas CPM procedures have become

lateralnog raka dojke (4). Prema našem najboljem saznanju, nije opisan uporediv izveštaj ili studija koja bi opisivala ovakav nalaz u srpskoj populaciji. Cilj ove studije je da se prikaže klinički slučaj incidentnog otkrića KRD u uzorku tkiva dobijenom KPM kod 46-godišnje pacijentkinje, kod koje je inicijalno dijagnostikovao duktalni karcinom in situ (DCIS) u suprotnoj dojci.

Prikaz slučaja

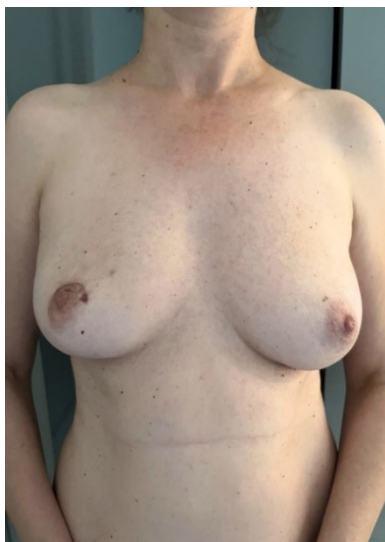
Prikazujemo slučaj 46-godišnje žene kod koje je KRD otkriven slučajno (incidentno). Tokom rutinske skrining mamografije u januaru 2025, kod inače zdrave pacijentkinje primećene su mikrokalcifikacije, što je bio povod za obostranu magnetnu rezonancu (MRI) dojki. U februaru 2025, u privatnoj opštoj bolnici, je urađena MRI, koja je otkrila multiple mikro-ciste, od kojih je najveća imala prečnik 0,9 cm, a u gornje-medijalnom kvadrantu desne dojke uočena je reznjevita lezija veličine 1,8 x 1,4 cm, koja je odgovarala prethodno prijavljenim mamografskim mikrokalcifikacijama. Prema sistemu klasifikacije radioloških izveštaja BI-RADS (engl. *Breast Imaging Reporting and Data System* - BI-RADS) kategorizacija je bila 4 za desnu i 3 za levu dojku.

Biopsija iglom (engl. *core needle biopsy*) desne dojke izvršena je na Institutu za onkologiju i radiologiju Srbije u martu 2025. godine, pri čemu su četiri uzorka tkiva dostavljena patologu na histopatološku analizu u istoj ustanovi. Mikroskopski je otkriven DCIS, komedo tipa, nuklearni gradus 2, sa sumnjom na invaziju bazalne membrane i negativnim estrogenskim i progesteronskim receptorima.

Slučaj je potom razmatran u martu 2025. na multidisciplinarnom onkološkom konzilijumu na Institutu za onkologiju i radiologiju Srbije, koji su činili hirurški onkolog, medicinski onkolog i radiolog. Tim je preporučio operaciju sa poštedom dojke (engl. *breast-conserving surgery*) sa ipsilateralnom biopsijom sentinel limfnog čvora, u pazušnoj jami, nakon čega bi usledila adjuvantna radioterapija.

U maju 2025, na Institutu za onkologiju i radiologiju Srbije, urađena je operacija parcijalne resekcije desne dojke sa istovremenom biopsijom stražarskog limfnog čvora u pazušnoj jami. Hirurška procedura je protekla bez komplikacija. Za mapiranje sentinel čvora korišćena je metilensko plavo boja, a oba uzeta čvora bila su negativna na malignitet. Konačni histopatološki izveštaj potvrdio je DCIS sa fokalnom invazivnom komponentom veličine 0,8 x 0,5 mm (p63-, kalponin-) ,negativnim ivicama resekcije, prisutnim mikrokalcifikacijama i odsustvom limfovaskularne invazije. Prekomerna ekspresija ljudskog receptora za epidermalni faktor rasta 2 (engl. *Human Epidermal Growth Factor Receptor 2* - HER2) je bila jaka (3+ u 55% tumorskih ćelija), a Ki-67 indeks je iznosio 15%.

Uprkos medicinskom savetu, pacijentkinja je odbila postoperativnu radioterapiju i, nakon dalje konsultacije sa multidisciplinarnim timom, opredelila se za obostranu mastektomiju sa poštedom bradavice uz rekonstrukciju direktnim implantom (DTI) i remodeliranje bradavice. Operacija je izvedena u avgustu 2025. godine, koristeći Mentor 570 cc silikonske implante ekstra visoke projekcije, postavljene u subpektoralni sloj (slike 1 i 2). Postoperativni oporavak je protekao bez incidenata.



Slika 1. Pre hirurške intervencije



Slika 2. Posle hirurške intervencije

increasingly common following unilateral breast cancer diagnosis(4). To the best of our knowledge, no comparable report or study describing such finding has been described in Serbian population.

The aim of this study is to present a clinical case of the incidental finding of CBC in a tissue specimen obtained through CPM in a 46-year-old patient who had been initially diagnosed with ductal carcinoma in situ (DCIS) in the opposite breast.

Case report

We present the case of a 46-year-old woman in whom CBC was incidentally detected. During a routine screening mammography in January 2025 microcalcifications were observed in an otherwise healthy patient, prompting for a bilateral breast MRI (Magnetic Resonance Imaging). The MRI was performed in a private general hospital in February 2025, and it revealed multiple microcysts, the largest measuring 0.9 cm in diameter, and in the upper-medial quadrant of the right breast, a lobulated lesion measuring 1.8 x1.4 cm, corresponding to the previously reported mammographic microcalcifications. Breast Imaging Reporting and Data System (BI-RADS) was at 4 for the right and at 3 for the left breast.

A core needle biopsy of the right breast was performed at the Institute of Oncology and Radiology of Serbia in March 2025 with four tissue samples were submitted for histopathological analysis. Microscopy analysis revealed DCIS, comedo type, nuclear grade 2, with suspicion of basal membrane invasion and negative estrogen

and progesterone receptors.

In March 2025, the case was subsequently discussed at a multidisciplinary oncology board at the Institute of Oncology and Radiology of Serbia comprising of a surgical oncologist, medical oncologist, and radiologist. The team recommended breast-conserving surgery with ipsilateral sentinel lymph node biopsy, followed by adjuvant radiotherapy.

The breast-conserving surgery with ipsilateral sentinel lymph node biopsy was performed in May 2025 and went without any complications. Sentinel node mapping utilized methylene blue dye, and both sampled nodes tested negative for malignancy. Final histopathology report confirmed DCIS with a focal invasive component measuring 0.8 × 0.5 mm (p63-, calponin-), negative surgical margins, microcalcifications present, and no lymphovascular invasion. Human Epidermal Growth Factor Receptor 2 (HER2) overexpression was strong (3+ in 55% of tumor cells), and the Ki-67 index was at 15%.

Despite medical advice, the patient declined postoperative radiotherapy and, after further consultation with the multidisciplinary team, opted for a bilateral nipple-sparing mastectomy with direct-to-implant (DTI) reconstruction and nipple remodeling. Surgery was performed in August 2025, using Mentor 570 cc extra high projection silicone implants placed in a subpectoral layer (Picture 1 and 2). The postoperative recovery was uneventful.

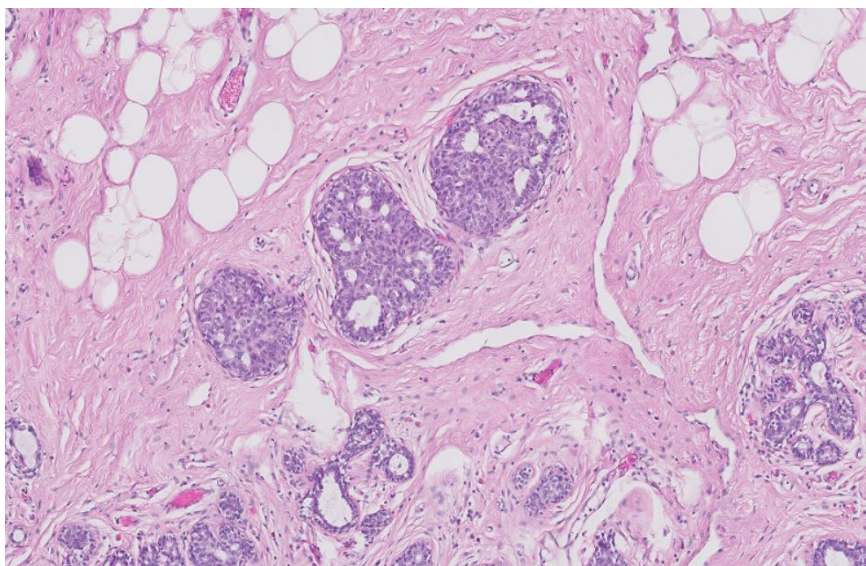
Histopathological examination of both mastectomy specimens was performed by an



Picture 1. Before surgery



Picture 1. After surgery



Slika 3. Tri mikroskopska fokusa DCIS-a u kontralateralnoj dojci

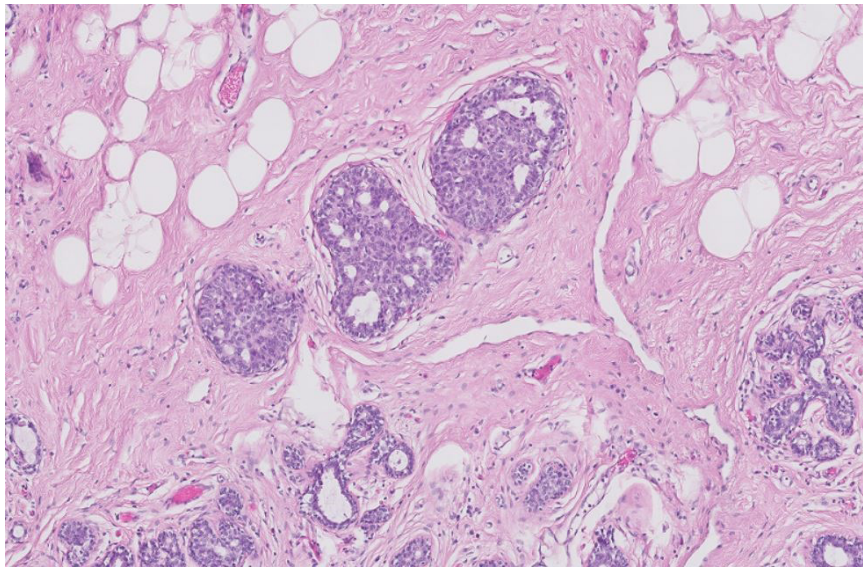
Histopatološki pregled, u avgustu 2025. godine, oba uzorka mastektomije izvršio je stručnjak za patologiju dojke u privatnoj laboratoriji za patohistološku i citološku dijagnostiku u Beogradu. I desna i leva dojka pokazivale su atipičnu duktalnu epitelnu hiperplaziju, fibrocistične proliferativne promene i intracističnu papilomatozu. Neočekivano, kontralateralna dojka je sadržala tri mikroskopska fokusa DCIS, što predstavlja incidentni nalaz (slika 3). S obzirom na HER2-pozitivan receptorski status, pacijentkinja je uključena u strukturirani program praćenja i ostaje pod redovnim onkološkim nadzorom.

Trenutne strategije hirurškog lečenja primarnog raka dojke sastoje se od operacije poštede dojke (lumpektomije) i mastektomije, pri čemu obe nude uporedive ishode preživljavanja kada se sprovedu na odgovarajući način (3). Cilj KPM, koja se takođe naziva i kontralateralna mastektomija za smanjenje rizika, je smanjenje verovatnoće razvoja KRB uklanjanjem nebolele dojke (5). Bez obzira na pozitivan status BRCA (engl. *BReast Cancer*) gena, retrospektivne kohortne studije su potvrdile zaštitni efekat profilaktičke mastektomije kod žena sa povećanim rizikom od raka dojke. U studiji Hartmana i saradnika (2), ispitano je 639 pacijentkinja koje su podvrgnute bilateralnoj profilaktičkoj mastektomiji i kategorisane su u grupe umerenog i visokog rizika na osnovu porodične anamneze i povezanih maligniteta. Nakon prosečnog praćenja od 14 godina, procedura je bila povezana sa impresivnim smanjenjem incidencije raka dojke za 90%. Isto tako, Alaofi i saradnici su prijavili stopu

recidiva od samo 2% kod pacijenata sa DCIS nakon mastektomije, potvrđujući onkološku sigurnost ovog hirurškog pristupa (6). Godišnja incidencija KRB u opštoj populaciji obolelih od raka dojke procenjena je da se kreće između 0,5% i 0,75% (7). Velika populaciona studija je dodatno ukazala o kumulativnim rizicima od 1,9% nakon 5 godina, 4,6% nakon 10 godina i 10,5% nakon 20 godina, pri čemu je rizik od KRB 1,3–1,9 puta veći od rizika od primarnog raka dojke u opštoj populaciji (8). Histopatološki pregled uzoraka KPM može pružiti dragocene uvide za kliničko odlučivanje. Dokazi ukazuju da su mlađa životna dob, primarni tumori pozitivni na estrogen i progesteron, i lobularni karcinomi ili DCIS povezani sa većom verovatnoćom otkrivanja lezija visokog rizika, uključujući atipičnu duktalnu hiperplaziju, atipičnu lobularnu hiperplaziju i lobularni karcinom in situ (9–11).

Zaključak

Ovi nalazi sugerišu da, iako KPM ne poboljšava ukupno preživljavanje kod svih pacijenata, može imati ključnu ulogu u individualizovanom smanjenju rizika, pojednostavljivanju nadzora i smanjenju anksioznosti povezane sa rakom kod određenih pacijenata kao i unapređenju kvaliteta života. Predstavljeni slučaj dodatno ističe dijagnostičku vrednost KPM, jer povremeno može otkriti okultni kontralateralni malignitet, što pojačava potrebu za multidisciplinarnom procenom i personalizovanim planiranjem lečenja.



Picture 3. Three microscopic focuses of DCIS in the contralateral breast

expert in breast pathology at a private laboratory for Pathohistological and Cytological Diagnostics, in Belgrade in August 2025. The right and left breasts both showed atypical ductal epithelial hyperplasia, fibrocystic proliferative changes, and intracystic papillomatosis. Unexpectedly, the contralateral breast contained three microscopic focuses of DCIS, representing an incidental finding (Picture 3). Given the HER2-positive receptor status, the patient was enrolled in a structured follow-up program and remains under regular oncologic surveillance.

Discussion

Current surgical management strategies for primary breast cancer consist of breast-conserving surgery (lumpectomy) and mastectomy, both offering comparable survival outcomes when conducted appropriately (3). The goal of CPM, also referred to as contralateral risk-reducing mastectomy, is to lower the likelihood of developing CBC by removing the unaffected breast (5). Regardless of the BRCA gene positivity status, retrospective cohort studies have confirmed the protective effect of prophylactic mastectomy in women with elevated risk for breast cancer. In a study by Hartmann et al. (2), 639 patients who underwent bilateral prophylactic mastectomy were examined and categorized into moderate and high-risk groups based on their family history and associated malignancies. After a 14-year median follow-up, the procedure was linked to an impressive 90% reduction in breast

cancer incidence. Likewise, Alaofi et al. reported only a 2% recurrence rate in patients with DCIS after mastectomy, acknowledging oncologic safety of this surgical approach (6). The annual incidence of CBC in the general breast cancer population has been estimated to be between 0.5% and 0.75% (7). A large population based study further reported the cumulative risks of 1.9% at 5 years, 4.6% at 10 years, and 10.5% at 20 years, with CBC risk being 1.3-1.9 times higher than that of primary breast cancer in the general population (8). Histopathologic examination of CPM specimens can provide valuable insights for clinical decision making. Evidence indicates that younger age, estrogen and progesterone positive primary tumors, and lobular carcinomas or DCIS are associated with a greater likelihood of detecting high-risk lesions, including atypical ductal hyperplasia (ADH), atypical lobular hyperplasia (ALH), and lobular carcinoma in situ (LCIS) (9–11).

Conclusion

These findings suggest that while CPM does not universally improve overall survival, it can play a critical role in individualized risk reduction, simplifying surveillance, reducing cancer-related anxiety in selected patients, as well as improving their quality of life. The presented case further highlights the diagnostic value of CPM, as it can occasionally discover occult contralateral malignancy, strengthening the need for multidisciplinary assessment and personalized treatment planning.

Konflikt interesa

Autori su izjavili da nema konflikta interesa.

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Competing interests

The author declared no competing interests.

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