Breast reconstruction with breast-sharing technique

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BACKGROUND:

Many techniques have been described for breast reconstruction after mastectomy. In many cases a significant reduction of the contralateral breast is needed for symmetry.

We describe for the first time in a Danish patient a single-stage secondary breast reconstruction after mastectomy using the exciding tissue from the contralateral reduced breast based on the perforant vessels of the internal thoracic artery.

METHODS:

A 62-year-old woman with a hypertrophic contralateral breast after prior surgery for breast cancer with mastectomy, underwent reconstruction with the breast-sharing technique. Preoperative oncological screening with mammography was performed and revealed no pathologic imaging in the donor breast.

Surgery was performed with a horizontally split of the right breast and a 180 degree rotation of the lower pole on a performant vessel from ateria intramammaria dexter. The tissue perfusion was controlled continually throughout the surgery. The patient was discharged 4 days postoperative without complications.

RESULTS:

We present the experiences of one patient who underwent breast reconstruction surgery through breast-sharing technique with a satisfied functional and aesthetic outcome.

In secondary reconstructions, all potential donor sites must be assessed before deciding whether the patient is best served by an implant-based or autologous reconstruction.

CONCLUSIONS:

This case describes a successful breast reconstruction after mastectomy with the use of breast-sharing technique. We suggest that this technique should be considered in line with other breast reconstruction techniques in patients with hypertrophic and ptotic breast.

Atypisk præsentation af lentigo maligna melanoma

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INTRODUCTION:

Lentigo maligna (LM) is an in-situ form of melanoma. It is commonly found in elderly patients, predominantly women, and typically located on the head. Lentigo maligna melanoma (LMM) accounts for 4-15% of all melanomas and is the most common subtype on the face. We report an unusual finding of LMM in a patient with a skin lesion with dark hair growth.

Method:

A 95-year-old woman with a history of multiple basal cell carcinomas presented with a patch of dark hair growing in her white hair. On further inspection, a lentigos lesion was found under the dark patch of hair. A biopsi was performed and confirmed the diagnosis of LMM. The lesion was excised. Due to age and co-morbidities no sentinel lymph node biopsy was performed.

Result/DISCUSSION:

Our case represents a typical LMM patient with regards to age, sex and location. The unusual finding is the pigmented hair growth with no obliteration of the follicles in the area. One can argue that the follicles are initially spared in the early stages of tumour invasion, but the discoloured hairs found in the lesion were of a considerate length which indicates that the lesion had been present for a considerable amount of time. To our knowledge, no similar cases have been described on review of the literature. Sun et al. present a theory of melanoma start arising from inside hair follicles which could potentially explain our findings.

CONCLUSION:

According to Stolz et al the development from LM to LMM outlines the destruction of the hair follicles and hence the growth of hair. Sun et. Al have demonstrated that melanoma can arise from hair follicles, which could explain the unusual presentation in our case.

Atypisk præsentation af penilt blue naevus

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BACKGROUND:

Blue nevus is a rare lesion on genital mucosa and may cause confusion in differential diagnosis with other pigmented lesions. To our knowledge, there are only a few case reports concerning genital blue nevus lesions in male patients.

METHODS:

We report a 39-year-old man who presented a sudden onset in adulthood of blue nevus on the glans penis. A punch biopsy was performed and confirmed the diagnosis of blue nevus. The patient is now followed in dermatologic department every 6 month.

RESULTS:

Although the prognosis of blue nevi commonly is benign, they can cause concern for patients and physicians when presented with an unusual presentation. Transformation to malignancy and differential diagnosis of malignant melanoma, lentigo maligna, lentigo maligna melanoma and atypical melanoma metastasis should always be kept in mind. Our case represents a typical clinical, episcopical and histological blue nevus lesion, but the unusual was the location and sudden onset in adulthood. A review of the literature showed no consensus in treatment and follow-up. No guidelines exist.

CONCLUSIONS:

This case presents an unusual presentation and onset of a genital blue nevus. A careful examination of these lesions should be made in order to minimize any risk of misclassification and it is important to have in mind, the risk of it turning invasive. Gguidelines for treatment and follow-up are needed.

Abstrakt til DSPR September 2020

Forfattere:

Carla Kruse, Ida Felbo

Institution arbejdet udgår fra:

Plastikkirurgisk afdeling, Herlev hospital

Titel:

Implementation of morbidity and mortality conference in the clinic using the Codmann classification system.

Formål/Baggrund:

Codmann klassifikationen var brugt til at implementere morbiditet og mortalitets konference (M og M) i forbindelse med morgenkonference på Plastikkirurgisk afdeling, Herlev hospital. Formålet var at skabe øget fokus på de patientforløb, som ikke går som forventet, og således diskutere disse mere systematisk ved brugen af et konkret værktøj som Codmann klassifikationen. Dertil var ønsket, generelt at øge fokus på uventede patientforløb og inspirere til at diskutere disse oftere.

Materiale og metode:

Codmann klassifikationen er brugt på blandt andet Brigham and Women's hospital i the division of Plastic and Reconstructive surgery. Klassifikationen blev oversat til dansk og gennem et forløb på et par uger blev læger på afdelingen instrueret i at benytte denne til at beskrive patientforløb med et uønsket forløb/outcome.

Resultater:

Efter kort tid blev mortalitet og morbiditet konferencen implementeret i klinikken i forbindelse med undervisning ved morgenkonference. Aktuelt finder denne MogM-konference sted hver ca. 3. uge. Der er blevet skabt et øget fokus på de uhensigtsmæssige/uventede outcomes, som er en del af den kliniske hverdag, og måske vigtigst har det været med til at skabe en øget åbenhed omkring komplicerede patientforløb.

Diskussion/Konklusion:

I en travl hverdag kan det være udfordrende at finde tid til at diskutere de komplicerede patientforløb med et uventet outcome. På plastikkirurgisk afdeling, Herlev er MogM konferencen blevet implementeret for både at dissekere disse forløb på en struktureret vis, og dertil skabe øget fokus på, hvorledes de kan optimeres og muligt undgås.

Abstract

Authors: Mia Demant, Grethe Schmidt, Jennifer Berg Drejøe
Institution: Department of Plastic Surgery and Burns, Rigshospitalet, Copenhagen, Denmark

Title: Desmoid-type fibromatosis (dansk: desmoid aggressiv fibromatose) of the head in children: Two case reports and review of the literature

Introduction. Desmoid-type fibromatosis (DF) is an uncommon, locally infiltrative and non-metastasizing neoplasm, that is characterized by a variable and often unpredictable clinical course. It is an intermediate tumor, that rarely occurs in the head and neck of children, and wide excision surgery may often cause concern because of the potential for functional morbidity.

Presentation of cases. We report two unusual cases of sporadic DF, both located in the right temporal region of an otherwise healthy 3- and 4-months old boy and girl, respectively. Wide excision was not possible due to the close relation to the facial nerve and ear cartilage. We performed macroradical dissection and extirpation of both tumors, but none of them were microscopically completely resected. Subsequently multidisciplinary discussions in soft tissue tumor boards were performed and follow-up with ultrasound scan together with clinical control every 3rd month was planned. No recurrences have yet been observed in either the boy or girl, but it has only been 2 and 10 months, respectively, since their surgeries.

Conclusion. DF remains a challenging disease to treat with a high recurrence rate and besides surgery, multiple pharmacologic therapies exist including chemotherapy, hormone therapy, targeted therapies, and nonsteroidal anti-inflammatory drugs. We here describe two atypical presentations of DF, initially successfully treated with surgery, but a close follow-up regime is required. Review supports that microscopic incomplete resection of pediatric DF can be acceptable.

Word count: 228.

Forfattere: Alexandra G. Frydkjær, Iselin Saltvig, Hannah Trøstrup, Jørgen Hesselfeldt

Institution arbejdet udgår fra: Plastik- og Brystkirurgisk Afdeling, Roskilde

Title: The modified nasolabial flap – an approach for full-thickness defects in a single stage reconstruction of the ala nasi.

Background: Alar full-thickness defects present a reconstructive challenge because of the heterogeneity of the three-layer structure comprising skin, cartilage and inner lining. Accounting for one-third of all nasal defects, the ala is commonly involved in nasal reconstruction, and knowledge of appropriate reconstruction is therefor of great importance. Particularly, reconstruction of the inner lining is critical, preventing contraction and maintain patency of the airways. Reconstruction using inappropriate methods may lead to dissatisfying functional and esthetical results.

Methods: We describe the successful application of the technique proposed by Hosaka et al in 1999 for reconstruction of full thickness alar defects with a superiorly based nasolabial flap utilizing the redundant skin.

Results: We have had no detachments around the suture lines, infection, and venous insufficiency in the flap, or partial or total flap losses and there has been no need for cartilage grafting to maintain airway patency. The results were functionally and aesthetically satisfying.

Discussion/Conclusion: The modified nasolabial flap is a stabile random flap with good vascularisation and low donor site morbidity. In our patients, we have had no need for revision surgery. This flap design leaves full-thickness defects to be repaired in a single stage reconstruction where the alar rim is preserved.

Forfattere: Tekin HG[1], Eskandarani HA[1], Iversen L[2], Juel J[1]

Institution arbejdet udgår fra: [1]Plastikkirurgisk afd., Aalborg Universitetshospital, Denmark

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Titel: Har immunsuppressiv behandling betydning for postoperativ sårheling?

Formål/Baggrund: Ved kirurgiske indgreb hos patienter i immunsuppressiv behandling bør der tages stilling til håndteringen af det immunsuppressive præparat, da det ellers kan betyde forlænget sårheling og langvarige behandlingsforløb. Der eksisterer ikke specifikke retningslinjer for håndtering af de forskellige immunsuppressive præparater indenfor alle kirurgiske specialer, og sårheling er afhængig af multiple faktorer, hvilket besværliggør generelle anbefalinger på området. Formålet er at skabe en oversigt over de forskellige præparater, samt et forslag for håndteringen af dem i den perioperative fase.

Materiale og metode: Statusartiklen gennemgår den seneste litteratur omkring håndtering af immunsuppressiv behandling hos patienter, der undergår operative indgreb.

Resultater: Patienter i langtidsbehandling med glukokortikoider bør øges i dosis i forbindelse med operative indgreb. Betydning af methotrexat på sårhelingen er primært baseret på studier af patienter med reumatoid artritis, der undergår ortopædkirurgiske indgreb, og der ikke er rapporteret øget forekomst af postoperative infektionsrater eller forlænget sårheling. Azathioprin og mesalazin kan ophobes ved nedsat nyrefunktion i forbindelse med operative indgreb. Det anbefales, at de pauseres på operationsdagen og 3 dage postoperativt. Behandling med ciclosporin kan fortsætte i den operative fase, men der bør udvises forsigtighed, da anbefalingen er baseret på studier med relativt få patienter. Tacrolimus, sirolimus og everolimus bør gives i lavest mulig dosis forud for kirurgiske indgreb, da de hæmmer sårhelingen betydeligt og øger risikoen for infektioner i operationssåret.

Diskussion/Konklusion: En generel anbefaling på området er svær, da litteraturen er baseret på procedurespecifikke komplikations- og infektionsrater. De fleste retningslinjer og anbefalinger støtter sig op ad ortopædkirurgiske og abdominalkirurgiske studier, som begge er kirurgiske specialer med en stor andel af patienter i immunsuppressiv behandling. Da evidensen fortsat ikke er bred nok til at omfavne alle operative specialer, anbefales det, at håndteringen af det immunsuppressive præparat i sidste ende bør bero på en konkret lægefaglig vurdering i samarbejde med patienten.

Forfattere: Christina Banzhaf, introduktionslæge, PhD; Jennifer Drejøe, overlæge; Rikke Holmgaard, overlæge, PhD.

Institution: Plastik kirurgisk afdeling, Rigshospitalet

Titel: Implementering af fraktioneret CO2 laser til behandling af patienter med brandsårs-ar på Plastik Kirurgisk afdeling, Rigshospitalet.

Formål/baggrund: Dybe forbrændinger hos brandsårspatienter kan resultere i svære funktionelle gener såsom ar-kontrakturer og hypertrofi. Plastik kirurgisk afdeling på Rigshospitalet er Nordens største brandsårsafdeling og modtager årligt flere hundrede brandsårspatienter hvoraf flere har behov for livskvalitetsforbedrende behandling. Fraktioneret carbondioxid (CO2) laser er en anerkendt ar-forbedrende behandling, som danner mikroskopiske sår i det eksponerede hudområde, hvorved kollagen-nydannelse stimulereres. Funktionelle gener efter brandskader kan således også forbedres. Fraktioneret CO2 laserbehandling er allerede implementeret på flere brandsårsafdelinger i udlandet, men tilbydes endnu ikke til brandsårspatienter i Danmark. Formålet med foredraget er en præsentation af 1) forventede resultater efter behandling med fraktioneret CO2 laser på brandsår-ar samt 2) tiltag der kræves ved implementering af fraktioneret CO2 laserbehandling til patienter med brandsårs-ar på Plastik kirurgisk afdeling, Rigshospitalet.

Materiale og metode: Forventede behandlingsresultater er indhentet fra udenlandske kollegaers kliniske erfaringer samt litteratursøgning på PubMed med relevante søgeord. Citerede publikationer er selekterede ud fra metodologisk kvalitet. Den praktiske implementering af behandlingen udføres i samråd med erfarne nationale og internationale kollegaer, relevante sundhedsmyndigheder samt forhandlere af laserudstyret.

Resultater: Klinisk erfaring såvel som litteraturen viser at fraktioneret CO2 laserbehandling til brandsårs-ar særligt kan forbedre følgende parametre: elasticitet, hypertrofi, vaskularitet og pigmentering. Implementering af behandlingen på Rigshospitalet indebærer afdækning af lovgivning på området, økonomiske og driftmæssige tiltag, oplæring af personale, sikkerhed ved anvendelse af udstyret, patientselektion samt udarbejdelse af kliniske guidelines og patientmateriale.

Diskussion/Konklusion: Behandling med fraktioneret CO2 laser kan forbedre funktionelle gener hos brandsårspatienter og bør tilbydes som adjuverende terapi til udvalgte brandsårspatienter på Rigshospitalet. Implementering af behandlingen indebærer juridiske, økonomiske, tekniske, logistiske, og sikkerhedsmæssige foranstaltninger.

Lymphatic Function and Morphology in the arms of Breast Cancer Treated Women – A follow-up study

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Background: Axillary surgery and radiation therapy (RT) are significant risk factors for developing breast cancer related lymphedema (BCRL). Lymphatic contractile function is changed and distinct pathological lymphatic patterns are described in BCRL patients, but it is unknown whether these changes occur before clinical edema is detectable and how the function changes over time.

Methods: The study population consists of 34 breast cancer patients treated with adjuvant strategy. The lymphatic vessels in the upper extremities were examined at baseline a few weeks after ended RT and at follow-up 6-12 months later. Contraction frequency, velocity, pumping pressure and the morphology of lymphatic vessels were described using Near-Infrared Fluorescence (NIRF) imaging in real time. Lymphatic stress-test was performed using hyperthermia.

Results: In total, 34 patients were investigated at baseline and 29 patients completed follow-up examination. During follow-up 48% of the patients presented with lymphatic morphological abnormalities with a degree of dermal backflow. Four of those only emerging at follow-up. At follow-up contraction frequencies (CF) in the treated arm were 22% lower than in the control arm ($p=0.037$), whereas no difference was observed at baseline ($p=0.53$). Since primary exam, CF in the treated arm decreased by 31%, ($p=0.023$) whereas no change was observed in the control arm. During stress test induced by hyperthermia, the treated arms with abnormal morphological patterns were not able to increase CF as were the remaining subgroups.

Conclusion: Lymphatic function in the treated arm lowered over time after adjuvant breast cancer treatment. The presence of morphological abnormalities in asymptomatic arms may be associated with weak lymphatic pumping capacity, which could indicate a subclinical initial phase of BCRL development.
These data elucidate the characteristics of the changes taking place in the lymphatic vessels after breast cancer treatment and thus provide new insight for future treatments, medical as well as surgical.

Risk of skin cancer in patients with vitiligo in Denmark: A nationwide cohort study

Authors

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Abstract

Background:

Vitiligo is a depigmentation disorder associated with genetic loss of melanocytes and decreased melanin synthesis. The current literature is conflicting regarding vitiligo patients risk of cutaneous malignant melanoma (CMM) and keratinocyte cancer (KC).

Objective:

To investigate the risk of CMM and KC in vitiligo patients.

Methods:

We conducted a population-based study, including 2,339 subjects with a first time vitiligo diagnosis between 1994 and 2017 and 23,293 age- and sex-matched (1:10) controls. To address surveillance bias, we included 12,380 subjects with a first time diagnosis of lichen planus (LP).

Results:

Age was the only significant factor for CMM when comparing vitiligo to controls and LP (HR:1.04, 95%CI:1.03-1.05 and HR:1.02, 95%CI:1.01-1.04). Similarly, age was a significant factor for KC when comparing vitiligo to controls and LP (HR:1.07, 95%CI:1.06-1.07 and HR:1.06, 95%CI:1.05-1.07). Male sex was an additional factor for KC when comparing vitiligo to LP (HR:1.38, 95%CI:1.09-1.75). Phototherapy did not increase the risk of being diagnosed with CMM or KC in the vitiligo cohort.

Conclusion:

We observed no significant difference in CMM or KC risk among vitiligo subjects. Phototherapy use was not associated with a higher skin cancer risk in vitiligo compared with other skin diseases.

Stråleinduceret atypisk vaskulær læsion i brystet.

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1) Brystkirurgisk afdeling Rigshospitlet/Herlev-Gentofte Hospital. 2) Patologisk afdeling Rigshospitalet

Baggrund:
Atypisk vaskulær læsion (AVL) i brystet blev i november 2019 klassificeret af WHO som en selvstændig diagnose. Litteraturen har beskrevet sporadisk udvikling af AVL til Angiosarkom (AS), om end evidensen er sparsom og incidensen ukendt, og anbefaler excision af området, ofte som mastektomi.
Formålet med dette studie er at undersøge, om den ændrede klassifikation har resulteret i en stigning i antal patienter diagnosticeret med AVL og standardisere behandlingen.

Metode:

Patienter diagnosticeret med AVL i perioden 1. januar 2010 til 31. juni 2020 blev identificeret i Patobanken vha. en kombineret søgning på SNOMED koderne for atypisk proliferation og mamma feminina. Information om tilbudt behandling og kontrolprogram blev indhentet fra SP, hvor det var muligt.

Resultater:

Der blev i alt identificeret 13 tilfælde af AVL. Den gennemsnitlige alder var 73,29 år (50-85 år) og den gennemsnitlige tid fra begyndt strålebehandling til udviklingen af AVL var 61,1 måned (1-117 måned). 6 tilfælde blev diagnosticeret forud for ændringen af WHO's klassifikation (0,05 tilfælde pr måned) og 7 tilfælde efter (1,8 tilfælde pr måned), hvilket er en signifikant stigning ($p< 0,0001$). Ud af patienterne diagnosticeret efter den nye klassifikation blev 2 patienter afsluttet, 2 patienter planlagt til årlig kontrol med PET/CT og 3 patienter blev anbefalet mastektomi, hvoraf 2 afstod pga. komorbiditet.

Konklusion:

Efter ændringen i klassifikationen af AVL er der sket en signifikant stigning i antal diagnosticerede tilfælde. Patienterne er ofte ældre og svækkede og selvom behandlingen ikke er standardiseret, anbefales mastektomi oftest til trods for at evidensen for den prognostiske gevinst heraf er sparsom. Vi har derfor standardiseret opfølgningen mhp. at foretage et større studie, for at fastlægge den mest optimale behandling og risikoen for udvikling af AS.

Complications following breast reduction: a retrospective chart review.

Authors:
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Abstract:

Background and aim: Breast reduction may alleviate symptoms related to hypertrophy of the breast. Even though the procedure is commonly performed, the literature describes complication rates between 24% and 54%. In Denmark strict criteria apply in regard to BMI, age, smoking status and estimated resection weights in order to undergo a publicly financed breast reduction. These factors are all considered to be risk factors for complications. The aim of the retrospective chart review was to investigate how these criteria impact local complication rates as well as to determine potential risk factors.

Materials and Methods: A retrospective chart review was performed on a consecutive series of women who underwent bilateral breast reduction for symptomatic macromastia at Aarhus University Hospital from 2013 - 2019. All complications that occurred during the first 90 days postoperatively were obtained as well as information about potential pre- and peroperative risk factors such as BMI, age, smoking status, resection weight, antibiotics, and use of drains.

Preliminary results: A total of 101 women were included with a median age of 40 years, median BMI of 24 kg/m^2, median ASA-score of 1, and median total resection weight of 671 grams. The majority was operated with a vertical incision (69.1%) and superomedial pedicle (87%). Complications were classified as minor, major, or any. A total of 62 (61,4%) women experienced any complication, 14 (13.8%) of these were classified as major. The most frequent major complication was hematoma which was observed in 10 patients. The only significant difference between any complications group and no complications group was body weight (p=0.03), no difference was found in BMI or height. 90 women attended follow-up, 81 of the patients were satisfied with the outcome of the procedure.

Discussion: Our preliminary data suggests that complication rates are higher than the ones experienced in the literature. This might be explained by the wide definition of minor complications in this study, including unsatisfactory aesthetic results. No significant risk factors were identified however the small and selected population must be taken into account.

A rodent model of breast reconstruction using decellularized adipose tissue and adipose stem cells

Authors:
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Introduction:
A breast reconstruction should be performed with the lowest possible morbidity for the patient. It may be performed using the patient own tissues or using an implant. These two techniques may be combined as well. A breast reconstruction may inflict donor site morbidity on the patient or cause complications. The present study investigates a rodent model of breast reconstruction using a human decellularized adipose tissue (DAT) scaffold and allogenic rat adipose stem cells (ASC).

Method:
Two implant-shaped DAT scaffolds were implanted subcutaneously in each Wistar rat (N=24). Either saline (n=8), $6{\cdot}10^6$ normal ASCs (n=8) or $6{\cdot}10^6$ pre-treated ASCs (n=8) were injected into the right scaffold, while the left scaffold acted as a control. Non-invasive MR scanning was used to determine graft volume in vivo until 12 weeks post implantation. Grafts were analysed post-mortem using HE and Oil Red O stains as well as several adipogenic markers.

Results:
The rats tolerated DAT scaffolds and ASCs well, and no immunologic response nor complications were seen over the 12 weeks of implantation. The scaffolds injected with pre-treated ASCs had the largest volume of 0,32 ml 12 weeks post implantation. Scaffolds in the pre-treated ASC group were 1,53 (CI: 1,14-2,04) times bigger than control scaffolds, when comparing the pre-treated ASC group and vehicle group. Evaluation of first 12 of 48 histologic specimens showed a tendency of vascularized adipose tissue generation in both ASC groups, while control and vehicle scaffold had few vessels and widespread infiltration of cells.

Discussion and conclusion
DAT scaffolds in combination with ASCs generate a significant volume of vascularized adipose tissue in a rodent model. This is of great interest as the method in the future might provide an alternative to current methods of breast reconstruction without the concomitant donor site morbidity.

Management Recommendations for Merkel Cell Carcinoma—A Danish Perspective

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Abstract: *Aim/background:* Merkel cell carcinoma (MCC) is a rare malignant neuroendocrine carcinoma of the skin with a poor prognosis and an apparent increase in incidence. Due to its rarity, evidence-based guidelines are limited, and there is a lack of awareness among clinicians. *Material and Method:* This review constitutes the consensus management recommendations developed by the Danish MCC expert group and is based on a systematic literature search. *Results:* Patients with localized disease are recommended surgical excision and adjuvant radiotherapy to the primary site; however, this may be omitted in patients with MCC with low risk features. Patients with regional lymph node involvement are recommended complete lymph node removal and adjuvant radiotherapy in case of extracapsular disease. Metastatic disease was traditionally treated with chemotherapy, however, recent clinical trials with immune therapy have been promising. Immune checkpoint inhibitors targeting the programmed cell death protein 1(PD-1)/programmed death-ligand 1(PD-L1) axis should therefore be strongly considered as first-line treatment for fit patients. A 5-year follow-up period is recommended involving clinical exam every 3 months for 2 years and every 6 months for the following 3 years and PET-CT one to two times a year or if clinically indicated. *Conclusion:* These recommendations are intended to offer uniform patient treatment and hopefully improve prognosis.

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Title: A systematic review on ICG-angiography in breast reconstruction

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1. Introduction

A successful breast reconstruction necessitates adequate tissue perfusion which is a prerequisite for uneventful healing and an aesthetically pleasing result.
Indocyanine Angiography (ICG-A) is a known modality for evaluating tissue perfusion. ICG-A has been used experimentally to asses skin perfusion since 1995, and in plastic surgery for two decades.

The aim of the present literature review is to evaluate all published papers on breast reconstruction using ICG-A, grading them according to level of evidence and assessing the current knowledge on the topic.

2. Materials and Methods

MEDLINE/Pubmed, EMBASE, Cochrane and UpToDate were searched using relevant terms. The literature was evaluated using the PRISMA guidelines. Inclusion criteria were as follows: original articles written in English assessing ICG-angiography in breast reconstruction. Reviews, case-reports, abstracts, papers not in English and non-human studies were excluded.

3. Results

Of 234 articles using ICG-A on breast reconstruction, 34 studies were included. The included articles were mainly of lower levels of evidence, with 85% including immediate breast reconstructions and 35% delayed. Eight studies included DTI procedures and 18 tissue expanders. A total of 24 of the 34 papers included reconstruction with autologous tissue; 10 studies on pedicled autologous tissue, 20 on free tissue transfer and 1 unspecified.

4. Conclusion

Use of intraoperative ICG-A favours evidence-based decision making. The current data indicates that use of ICG-A in immediate and delayed breast reconstruction correlates with an outcome of fewer complications. Using ICG-A to assess perfusion of autologous flaps may also be beneficial. Intraoperative ICG-A guided assessment of autologous flaps enhances the outcomes of breast reconstructions. Healing without complications is one of the prerequisites for successful reconstruction thus avoiding revision and minimizing the impact the treatment has on the patient. This systematic review concludes that further studies on higher level of evidence are needed, and possible also studies on the use of ICG-A for assessing venous congestion.

Words: 299

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Clinical implications and diagnostic value of routine 18F-FDG PET-CT scans in the surveillance of stage IIB-III melanoma patients.

Background
Breakthroughs in systemic therapy have increased the need for early recurrence detection in patients treated for cutaneous melanoma (CM).
18F-FDG PET-CT (PET-CT) scans provide an accurate imaging method for detection of CM metastases. The diagnostic value of PET-CT in CM staging and restaging is high, but few studies have examined the diagnostic value of routine PET-CT in the surveillance of asymptomatic patients. Denmark introduced nationwide routine surveillance with PET-CT in high-risk melanoma patients in 2016.
The aim of this study was to examine the diagnostic value of routine PET-CT in the surveillance of asymptomatic CM patients and the clinical consequences of false positive (FP) findings.

Materials & Methods
Data was retrieved from the Danish Melanoma Database and files. All patients diagnosed with stage IIB-III CM at Herlev and Odense University Hospitals in 2016 and 2017, were included. Patients underwent surveillance with clinical examinations and PET-CT scans at 6, 12, 24 and 36 months.

Results
285 routine PET-CTs were performed in 161 patients with a mean follow up time of 17.6 months. PET-CT detected 46 recurrences in 26 patients (16.1%); 27 locoregional and 19 distant. Recurrence rate was highest at 6 months (13.9% of scans).
Sensitivity was 100% (87.0-100.0%), specificity 94.0% (90.0-96.5%), positive predictive value 68.8% (53.6-80.9 %) and negative predictive value 100% (98.0-100.0%).
There were 14 FP findings suspicious of recurrence (4.9%), which prompted 11 additional investigations (3 invasive) in 9 patients (5.6).
There were 13 FP findings suspicious of other cancers (4.6%), which prompted 13 investigations (9 invasive) in 12 patients (7.5%).

Conclusion
Routine surveillance PET-CT had a high diagnostic value, but high FP rates led to further investigations at cost to both patient and the healthcare system. Further research into the effect of surveillance with routine PET-CT on survival and time to recurrence-detection, is needed.

Measured Levels of Human Adipose Tissue–Derived Stem Cells in Adipose Tissue Is Strongly Dependent on harvesting Method and Stem Cell Isolation Technique

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Introduction

Adipose tissue-derived stem cells are of great interest because of their properties of immune modulation, tissue regeneration, and multipotent differentiation. To advance development of stem cell-based treatments, determination of the physiologic concentration of adipose tissue-derived stem cells in human adipose tissue is relevant for proper guidance of stem cell treatment dosage, oncologic safety, and evaluation of efficacy.

Materials and Methods

A prospective comparative case-control study of 20 patients was conducted to determine the yield of adipose tissue-derived stem cells in periumbilical adipose tissue harvested by the widely used method of aspiration and in structurally intact adipose tissue harvested by excision. Stem cells were isolated using conventional enzymatic digestion and by a method combining enzymatic digestion with mechanical distortion. Stem cell yield was quantified by multi color flow cytometry and colony-forming capacity.

Results

Isolation based solely on conventional enzymatic digestion, did not result in a significant difference in adipose tissue-derived stem cell yield. However, when enzymatic digestion was combined with mechanical distortion, twice as many stem cells were isolated from excised adipose tissue compared to aspirated adipose tissue. Inclusion of mechanical distortion significantly increased yield 5-fold in excised adipose tissue and 2-fold in aspirated adipose tissue. Combining enzymatic digestion and mechanical distortion, measured levels of excised adipose tissue reached 140 x 10^3 (95 percent CI, 62 to 220 x 10^3) adipose tissue-derived stem cells per gram of adipose tissue that corresponded to 26 x 10^3 (95 percent CI, 18 to 33 x 10^3) colony-forming units per gram.

Conclusions

The study indicates that harvesting by aspiration halves the concentration of adipose tissue-derived stem cells in adipose tissue samples when compared to structural intact adipose tissue. Furthermore, the study presents stem cell yield higher than previously described in the current literature.

The impact of lymphedema on health-related quality of life up to 10 years after breast cancer treatment

Authors

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Background:

To investigate the impact of breast cancer-related lymphedema (BCRL) on health-related quality of life (HRQoL) in breast cancer patients treated with axillary lymph node dissection. Lymphedema after breast cancer is thought to negatively affect HRQoL, however large and properly matched studies are lacking.

Methods:

This regional population based cross-sectional study enrolled 244 BCRL and 823 matched breast cancer patients without lymphedema between 1st Jan 2007 and 1st Jan 2018. The study outcome was HRQoL, evaluated with the Lymphoedema Functioning, Disability and Health Questionnaire, the Disabilities of the Arm, Shoulder and Hand Questionnaire and the The Short Form (36) Health Survey Questionnaire. Patients with BCRL also underwent a clinical exam for disease staging. Multivariate linear logistic regression models adjusted for confounders provided mean score differences (MDs) with 95% confidence intervals in each HRQoL scale and item.

Results:

In patients with BCRL, HRQoL was generally poorer in all scales and items. Age, BMI, lymphedema severity, hand and dominant arm affection had only minor impact on HRQoL, suggesting a high degree of inter-individual variation in coping with lymphedema.

Conclusion:

Lymphedema after breast cancer with axillary lymph node dissection is associated with long-term impairment in HRQoL.

Immediate direct-to-implant breast reconstruction; evaluation of complications and safety

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Abstract

Objective: Immediate implant-based breast reconstruction with the use of acellular dermal matrix remains a controversial subject in the literature, and utilization of acellular dermal matrixes seems to increase among plastic surgeons. This study aimed to investigate reconstructive failure and other complications, possible risk factors, and number of re-operations, in a uniform reconstructive procedure.

Methods: A retrospective study of all patients undergoing immediate direct-to-implant breast reconstruction with acellular dermal matrix, primarily Strattice™, during a five-year period (August 1, 2014 to July 31, 2019), at a university clinic. Study outcomes were explantations and complications, both stratified as within or after 6 months postoperatively. Explantations were subcategorized into implant loss or salvaged with immediate insertion of a tissue expander or a new implant, and all complications were stratified by type of intervention.

Results: A total of 154 eligible patients and 232 breasts were included. Explantation occurred in 16 patients (10%) in which 9 (6%) had implant loss. Preoperative radiotherapy was the strongest predictor of explantation (adjusted OR: 5.6, 95% CI: 1.1-28.3, p=0.04) and significant in current and previous smokers combined (adjusted OR 3.6, 95% CI: 1.1-11.4, p=0.03). Complications within 6 months included; hematoma (4%), seroma (8%), infection (9%), skin necrosis, delayed wound healing or dehiscence (19%), resulting in a total complication rate of 34%. Postoperative re-operations occurred in 56 patients (36%), and median number of re-operations per patient was null.

Conclusion: This study demonstrates acceptable rates of complications, re-operations, and implant loss compared to other studies, but highlights the importance of proper patient selection with regards to risk factors.