BREAST RECONSTRUCTION USING AUTOLOGOUS FLAPS VERSUS IMPLANTS AFTER ABLATIVE SURGERY FOR BREAST CANCER

Thesis

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CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Breast reconstruction after ablative surgery for cancer breast is becoming a widely accepted concept if not a routine, after adequate patient assessment. The need to choose the proper method and proper timing tailored according to each patient is crucial. The increase in patient's expectations and the attempt to minimize morbidity are the most important forces empowering the development in breast reconstruction

Keywords:

- Cancer breast
- Breast reconstruction
- Immediate versus delayed reconstruction
- Autologous versus alloplastic reconstruction

INTRODUCTION

Cancerbreastisoneofthemostcommonmalignanciesandthemostcommonmalignancyamongfemales.Differentmodalitiesoftreatmententaildifferentresectionpoliciesconcentratingononcosurgicalsafety, butleavingandresultingindifferentratiosofmutilations.Thismayincludetotallossofthebreastenvelopeandunderlyingpectoralismuscleaswellasareolaandnipplecomplex, dependingonthemagnitudeofexperpativesurgery (**Kroll et al.,2000, Settembrini et al.,2012).**

Theconceptofreconstructingthebreastaftersuchablativesurgerystartedinashyandhumblewayinlightoftheprimarygoalofdefeatingmalignancy.Reconstructionconceptevolvedtobearightofthepatientifattainable (**Elkowitz et al.,1993).**

Theevolvingoftheconceptofbreastreconstructionreachedalevelwhereddifferentproceduresofreconstructionruninparalleltodifferentablativeprocedures; fromradicalmastectomy, breastsavingproceduresandoncoplasticsurgery, theuseofautologous, alloplasticorcombinationofbothmethodsofreconstructionwereusedtorestoreskinenvelope, volumereplacementandareolaandnipplereconstruction, reachingasatisfyingresultforpatient (**Kronowitzet al.,2009,Rosson et al.,2010).**

AIMOFTHEWORK

Studyingthefeasibilityandtheconceptualsafetyofadoptingbreastrecons tructionafterdifferentablativesurgicalmodalitiesforcancerbreast. Thisstudywentthroughthesafetyandtimingofreconstruction, tobesynchronouswiththeablativeprocedureordelayedafterthat, andifdelayedhowfarshoulditbedelayed.

Theconceptofapproachingthecontralateralnativebreastwithreduction mammoplastyormammopexywasstudiedwithitsdebates.

Inthisstudydifferentadvantagesanddifficultiesofusingalloplasticversus autologousmethodsofreconstructionwerereviewedandcomparedinaretrospec tiveclinicalstudy, tobeabletoconcludeaclearprotocolonwhen, howandwhichmethodtobeusedforbreastreconstructionindifferentpatients.

ANATOMY

Whenconsideringtheanatomyofthebreast, itishelpfultodistinguishbetweenphysiologicanatomyandstructuralanatomy.Physiologicanatomyrelatestothearterialandvenoussupply, innervationandlymphaticdrainageofthebreast.Essentially, thesearetheanatomicalfeaturesofthebreastwhichmustberespectedandmanipulatedappropriatelyduringthevarioustypesofprocedures.Forinstance, failuretoadequatelypreservearterialinflowtothenipple–areolacomplex(NAC)duringaskinsparingmastectomycanresultindisastrousconsequenceswithpotentiallossofthisveryimportantstructure.Forthisreason, itisimperativethattheinformedsurgeonfullyunderstandthevarioussourcesofinnervationandvascularsupplytothebreast.

Structuralanatomyisinherentlymuchmoreinteresting.Thesupportstructureofthebreastincludestheparenchyma, fat, skinand, mostimportantly, thefascialarchitectureofthebreast.Whenitcomestosurgicallymanipulatingthebreast, understandinghowthesevariablesinterrelatetooneanothercanprofoundlyaffectthequalityandsuccessoftheoverallresult.Includedinthestructuralanatomyofthebreastistheunderlyingmusculature.Althoughnotpartofthebreast, thelocationandattachmentsofthepectoralismajorandminormusclesand, toalesserextent, theserratusanteriorandtherectusabdominiscanallaffectthefinalresultafterbreastsurgeryasaresultofthecommonpracticeofplacingimplantsunderthesemuscles.Understandingwherethesemusclesarelocatedinrelationtotheoverlyingbreastcangreatlyfacilitatetheiruseandavoidmorbidity**(Sabel, 2009).**

GENERALCONSIDERATIONS:

Theadultfemalebreastormammaryglandliesinthesubcutaneoustissue(superficialfascia)oftheanteriorthoracicwall.Thebaseextendsfromthesternaledgetonearthemidaxillaryline andfromthesecondtothesixthribsinthenon-

ptoticstate.Asmallpartoftheupperouterquadrantextendsintotheaxillaandliesinthes ubcutaneousfat, calledtheaxillarytail.

Theadultbreastcontains14–18irregularlactiferouslobesthatconvergetothenipplethroughducts2.0–4.5mmindiameter; ineachbreast, 4–18lactiferousductsdraintothenipple; theglands-to-fatratiois2: 1inlactatingwomen, and1: 1innon-lactatingwomen**(Sabel, 2009).**

Themilkducts(lactiferousducts)areimmediatelysurroundedwithdenseconnectivetissuethatfunctionsasasupportingframework.Theglandulartissueofthebreastisbiochemicallysupportedwithestrogen; thus, whenawomanreachesmenopauseandherestrogenlevelsdecrease, theglandulartissuethenatrophies, withers, anddisappears, leavingabreastcomposedonlyoffat(adiposetissue), superficialfascia, thesuspensoryligaments, andtheskinenvelope.Thestructuralsupportsystemofthebreastismadeofsuperficialfascia; thesuspensoryligamentsandtheskinenvelopecanchangethefibrousframewithageandtheforceofgravity**(Ramsayetal., 2005).**

Thedimensionsandtheweightofthebreastvarymuchamongwomen: 500–1,000gmeach.Asmall-to-medium-sizedbreastweighs500gmorless; largebreastsweigh750–1,000gm.Thetissuecompositionratiosofthebreastvaryfromwomantowoman; somebreastshavegreaterproportionsofglandulartissuethanofadiposeorconnectivetissues, andviceversa; anditisthefat-to-connective-tissueratiothatdeterminesthefirmness, thedensity, ofthebreast.Inthecourseofawoman’slife, herbreastswillchangeinsize, shape, andweight, becauseofthebodilychangesoccurredinthemenarche, menstruation, pregnancy, theweaningofaninfantchild**(Sabel, 2009).**

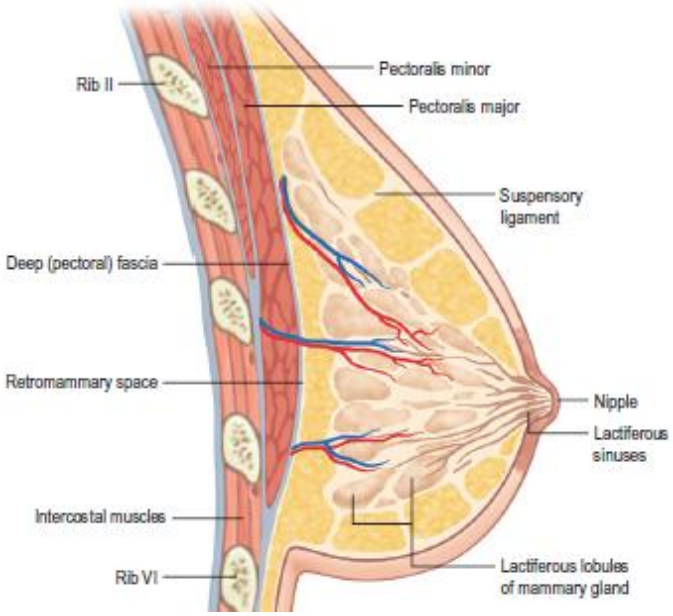

Fig.1: Anatomyofthefemalebreast**(Gregoryetal., 2010)**

MUSCLESRELATEDTOTHEBREAST:

Thebreastoverliespectoralismajor, serratusanteriorandasmallpartoftherectussheathandexternalobliquemuscle**.**Them usclesofthechestwallareimportantinbreastsurgeryfortworeasons.First, perforatorsfromthemainfeedingvesselsofthechestwalltravelthroughthemusclestos upplythebreast.Therefore, forinstance, thepectoralismajorservesasaconduitformanyperforatorstoenterthebreastfromthet horacoacromialsystem.Secondlyinbreastreconstructivesurgery, implantsarecommonlyplaced under these chest wall muscles **(Sinnatamby, 2006).**