Breast Cancer Screening and the Transgender Community

Evidence Based Clinical Considerations

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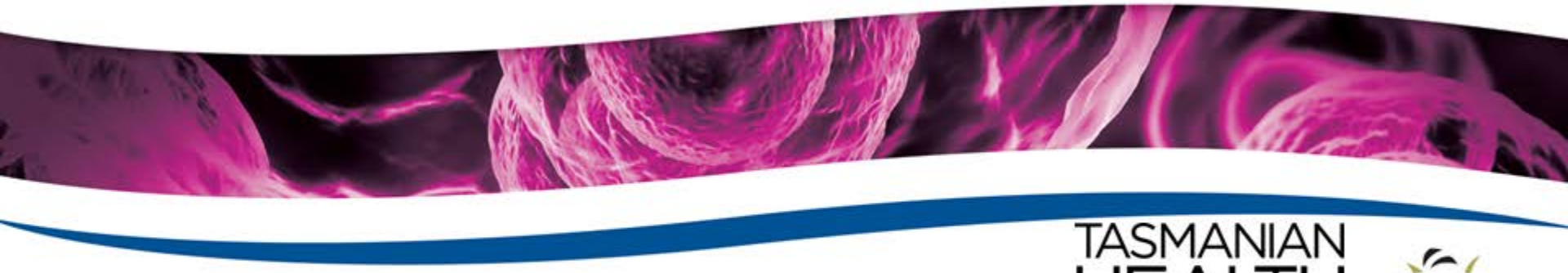

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Three Important Questions

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- What do we know about breast cancer risk for transgender individuals - Male to Female and Female to Male?
- Is there evidence that population screening provides the best surveillance for transgender individuals?
- How do we ensure the best clinical care for transgender people with respect to breast cancer?

Breast Cancer Risk in the Transgender Community

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- Two distinct populations
  - Transgender female (natal male)
  - Transgender male (natal female)
- Marked heterogeneity in each group
- Very little published evidence
- Recognised potential for institutional bias in those few papers that have been published

Transgender Women

- 2 published reports :
  - Gooren et al: 2 probable cases amongst 2307 Transgender females between 1975 and 2011 with >5years of cross sex hormone (CSH)use
  - Brown: 3 cases in Transgender females in a review of 5135 Transgender veterans
- In each study the incidence of breast cancer approximates risk of natal male population rather than known female risk level

Transgender Women (2)

- Limited true data
  - 13 cases of breast cancer arising in Transgender females in the English language medical literature up to 2015
  - No evidence that cross-sex hormones (CSH) result in a greater incidence of breast cancer than in the natal (male) population
  - Wide variation in patterns of CSH use, make analysis of risk difficult
  - No evidence that breast augmentation with silicon prostheses is associated with an increased risk of breast cancer

Transgender Men

- Risk of breast cancer almost entirely related to amount of retained breast parenchyma

- Where no breast glandular tissue removed, breast cancer risk is similar to natal females, ~12%, irrespective of hormonal manipulation (Phillips)

- Surgical removal of breast glandular tissue covers a spectrum from reduction mammoplasty to subcutaneous mastectomy

Risk Summary

- Transgender Women
  - Risk more closely matches natal males than natal females
  - No proven effects of CSH for developing breast cancer - but the data is poor

- Transgender Men
  - Baseline risk level is equivalent to natal females
  - Only documented means to reduce risk is bilateral mastectomy
  - No evidence that CSH will decrease risk in this population

Screening Mammography for Transgender People

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- What evidence is there of benefit from mammographic screening?
- What risks might there be from mammographic screening?
- How practical is mammographic screening?
- Does a population based screening program meet the clinical needs of the transgender community?

Screening Mammography for Transgender People (2)

- What we do know?
  - Value of screening mammography is based on studies of natal females in defined populations (age, interval, asymptomatic)
  - A mass Population Based Screening program is not designed for diverse clinical needs

Screening Mammography for Transgender People (3)

- What are the risks?
  - Radiation exposure
  - False positive findings
    - Inappropriate biopsy or intervention
  - False negative findings
    - False level of reassurance

- Risks need to be proportionate to the benefit

Screening Mammography for Transgender People (4)

- Is mammography possible for Transgender women?

Technically possible - sometimes:

- Adequate imaging and tolerance from Dutch study (Weyers et al)
- High proportion of implants

Screening Mammography for Transgender People (5)

- Is mammography possible for Transgender men?
  - Technically yes, for those who have not undergone breast reduction surgery
  - Utility related to amount of residual breast glandular parenchyma
  - Distribution of residual glandular tissue after subcutaneous mastectomy may not be suitable for mammography
  - How to sensitively determine who has sufficient tissue for mammography within the constraints of a screening program?

Does a population based screening program meet the clinical needs of the Transgender community?

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- Probably not
- Insufficient data or evidence on the need for screening within the respective groups
- Insufficient data on the effectiveness of a screening program for either Transgender men or Transgender women

Does a population based screening program meet the clinical needs of the Transgender community? (2)

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- Surveillance should be customised to the individual's level of gender transition
- Absence of proven benefit, but definite risks:
  - Unnecessary/overexposure to radiation
  - Evidence shows the level of risk for Transgender females is extremely low, and screening has not demonstrated benefit.
  - Individuals are not at Population level risk
  - Mass screening program not equipped to manage individual psycho-social needs of transgender individuals.

What is the best way of monitoring the risk of breast cancer in the Transgender community?

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- Individualised care
  - Imaging (multi-modality) matched to the objective level of risk for the individual
  - Education for the Transgender community of risk level
  - Education of the responsible members of respective medical teams

What is the best way of monitoring the risk of breast cancer in the Transgender community? (2)

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- Clinical Trials, but
  - Heterogeneity of population with respect to surgery / CSH use
  - Large numbers needed
  - Long surveillance period to obtain meaningful results and demonstrate any advantage of a screening program
  - Cost

What is the best way of managing the risk of breast cancer in the Transgender community? (3)

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- Agree a clinical solution tailored to individual need and risk, and based on evidence
- Informed consent
- Alternative access to appropriate imaging
- ?Specific Medicare item for imaging surveillance of those not suitable for BSA but with specific risks

References:

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