GYNAECOMASTIA

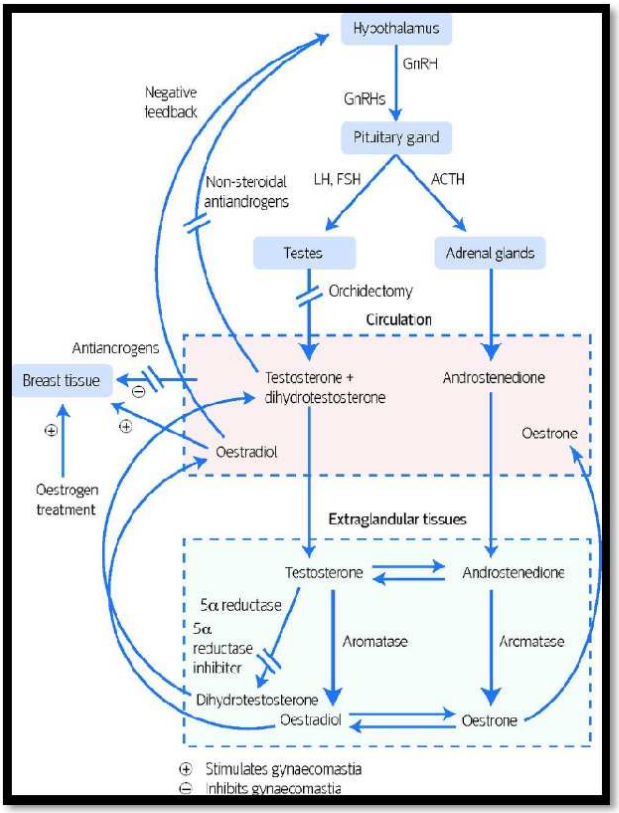
INTRODUCTION

This is a summary of the physiology; benign causes; primary care referral and secondary care management of Gynaecomastia. The guidance included in this cheat sheet is based on ABS guidelines and an article by Paul Thiruchelvam: Gynaecomastia BMJ 2016;254:i4833.

GUIDANCE

Physiology and Pathology

- Male breast cancer – 0.6% of all breast cancer. Incidence 400/year in the UK vs 55,000 cases in females.
- The majority of cases of gynaecomastia will be benign.
    - Testosterone: oestrogen imbalance can originate from many sources.



Adrenal gland: "GFR" Salty gets sweeter then sexy Zona Reticularis = SEX
Androgens - DHEA and Androstenedione

Testicular hormones
LH = Leydig = **TESTOSTERONE**
FSH = **S**ertoli = **S for STOP** so Inhibin (and S for Spermatogenesis)

Image to the left with permission from *Paul Thiruchelvam author of* Gynaecomastia. *BMJ* 2016;354:i4833.

Access at https://doi-org.ezproxy.is.ed.ac.uk/10.1136/bmj.i4833

BENIGN GYNAECOMASTIA

A: Physiological gynaecomastia

- Neonatal - due to placental oestrogen transfer.
- Pubertal - oestrogen production begins prior to testosterone production due to early maturation of aromatase. It is very common (up to 65%, peak at age 14), regresses in 90% of cases.
- Senile - Age 70+ up to 65% of men. Testosterone: oestrogen reduced with age.

B: Drug induced

- 10-20% of gynaecomastia is due to prescribed medication.

Anti-androgenic/reduces androgen	Oestrogenic	Prolactin	Herbal	Unknown mechanism
"ides" finasteride	Oestrogens	Haloperidol	Lavender	Calcium channel blockers
Spironolactone	Prednisolone		Tea tree oil	Anti-retrovirals
PPI/cimetidine	Anabolic steroids		Ginseng	Marijuana
Ketoconazole	Phytoestrogens		Puncture vine	
Chemotherapy			Soy protein	
Opioids*			Common nettle	

*Reduce testosterone so not strictly anti-androgenic

C: Pathological

Endocrine	Tumour	Systemic Illness
Hypogonadism **Primary – LH high (10%)** **Secondary – LH low**	**Testicular/Adrenal tumour <3%** Androgen/oestrogen producing Aromatase producing BHCG producing Prolactinoma	**Liver or Renal failure** oestrogen met and sex binding globulin
Prolactinoma		Obesity
Thyrotoxicosis		Malnutrition
Acromegaly		HIV
Androgen insensitivity		

Primary hypogonadism – mostly acquired: trauma; chemotherapy; inflammatory damage. Congenital causes include Klinefelter's syndrome; Kallman's and Prader-Willi.

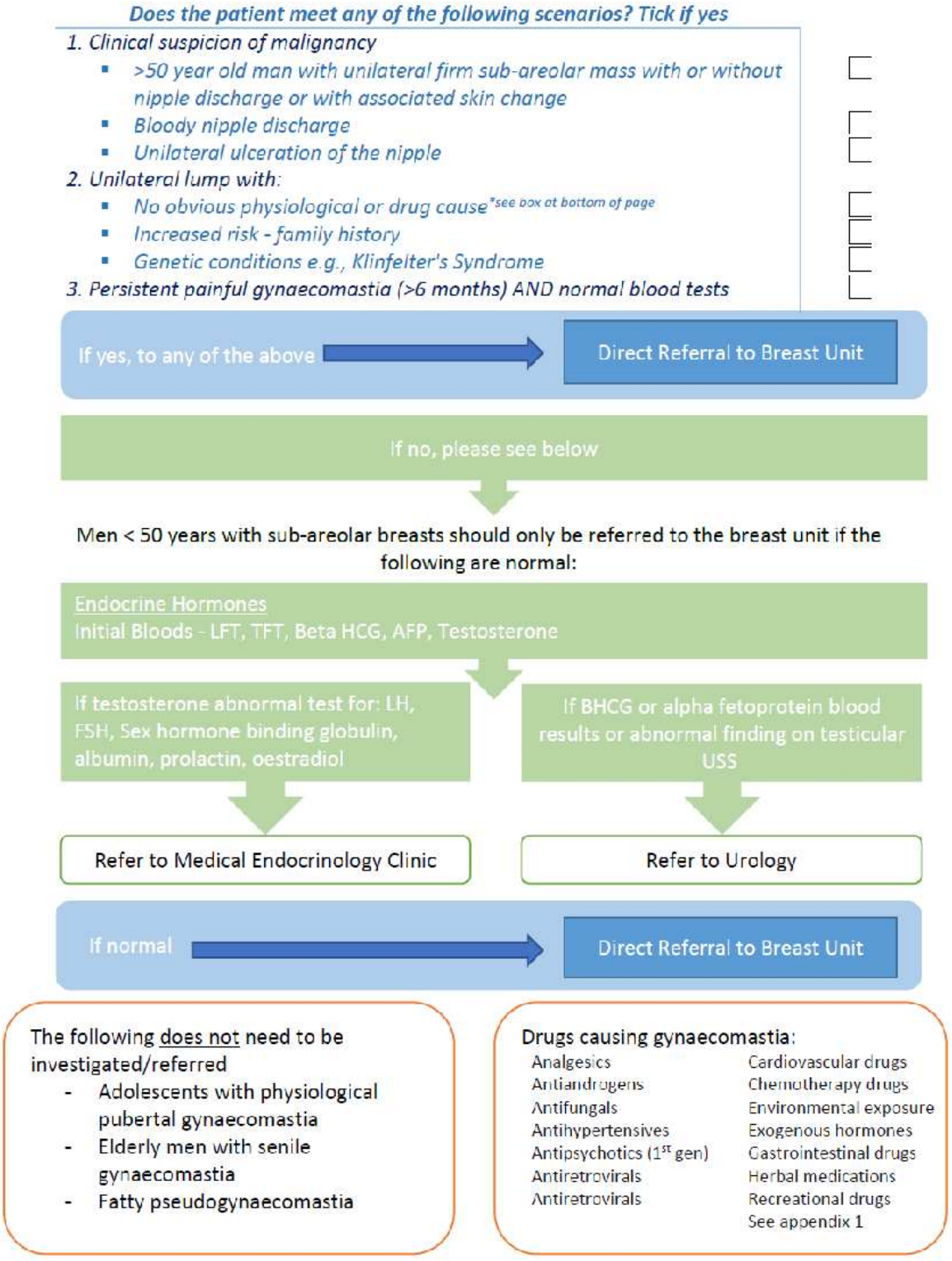
Obesity – Mainly causes pseudogynaecomastia but can cause true gynaecomastia.

Other causes – Cystic fibrosis; Re-feeding syndrome; testicular infiltration – TB, haemochromatosis.

Gynaecomastia.
Originally collated by Miss Amy Robinson. Last updated: May 2023

Primary Care

History – Should include a drugs review including recreational drugs; alcohol consumption.



Gynaecomastia.
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Secondary Care – Triple Assessment

Key points

- History and review medications, alcohol and bloods as per primary care referral
- Define pseudogynaecomastia from true gynaecomastia in the examination
- Unilateral vs bilateral
- Age <25 or >25
- Biopsy all uncertain i.e. P3/M3/U3 and above

Imaging

- If under 25, only image unilateral P3+, If over 25, only image unilateral
- No imaging of bilateral (unless there is a focal mass found on examination

Treatment

- **Medical**
    - ABS recommends endocrine management if any medical option is off-licence and need to use before has advanced gynaecomastia. Counsel the patient that while it may help with mastalgia it is unlikely to cause regression of the actual mass.
        - Tamoxifen 10mg PO OD: 3-9 months
        - Anastrozole 1mg PO OD: 3 months
    - Danazol is licenced in the UK and response rates of 58-64% reported (not mentioned in ABS guidance).
- **Prostate Cancer**
    - Men undergoing 6 months of therapy for prostate cancer are eligible for prophylactic radiation 8gy under NICE guidance or tamoxifen. Early prostate cancer programme: gynaecomastia occurred 6-9 months after starting anti-androgen treatment in ¾ of patients.
- **Surgical**
    - Surgery is specific to the CCG where you work and not NICE guidance based. It is the only option for advanced fibrotic disease but should not be used in the first 12 months. High satisfaction reported (approximately 85%) but do counsel well as most litigation comes from the dissatisfaction with the aesthetic outcome. Men are far less tolerant of scarring to the chest than women – counsel carefully as high litigation and don't forget psychological assessment.
    - Assess gland vs fat; nipple size/protrusion; skin pocket and need for skin reduction; and chest wall. Simon's classification.
    - Liposuction (not if fibrotic)
    - Mastectomy (preferably peri-areolar but be aware of the NAC – leave a bit of tissue behind).