Cost Effectiveness – Treatment for Gynecomastia

No studies were listed on the NHS Centre for Reviews and Dissemination Economic evaluation database.

Cost-effective management of gynecomastia.
American Journal of Surgery, 12 1998, vol./is. 176/6(638-41)
Bowers SP, Pearlman NW, McIntyre RC Jr, Finlayson CA, Huerd S

BACKGROUND: Routine endocrine screening of idiopathic gynecomastia has been advocated, but may not be cost effective. We carried out a cost-benefit analysis of this approach.

METHODS: A retrospective study (1992 to 1997) of 87 adult males with symptomatic gynecomastia was performed.

RESULTS: Thirty-four (39%) patients had extrinsic causes; 53 (61%) were considered idiopathic. Forty-five idiopathic cases underwent endocrine testing: beta human chorionic gonadotropin alone, 16; and beta human chorionic gonadotropin, LH, estradiol, testosterone+/−testicular ultrasound, 29. One (2%) occult Leydig cell testicular tumor was detected. Forty-four patients had normal studies and remain well after local excision.

CONCLUSION: Routine endocrine evaluation of idiopathic gynecomastia is rarely productive; such testing is best done selectively.

Accurate and cost-effective evaluation of breast masses in males
John Vetto

Because the majority of breast masses in males are benign and need not be excised if asymptomatic, we studied the combination of physical examination (PE) and fine needle aspiration (FNA), with or without mammography, as a diagnostic alternative to routine surgical biopsy of these lesions.

A diagnostic test study and cost-effectiveness analysis was performed in three participating multidisciplinary breast clinics, involving a consecutive sample of 51 males with unilateral breast masses. Each lesion was tested with both PE and FNA; 13 were also studied with mammography, and each test was scored as benign or suspicious. Lesions for which all tests were benign were followed up clinically (mean 19 months). Lesions for which any test was suspicious were excised.

All tests were benign in 38 cases. No cancers developed at the index sites during follow-up of these lesions, including 8 excisional biopsies done for symptoms (negative predictive value and specificity 100%). Open biopsy confirmed malignancy in all 6 cases for which all tests were suspicious (positive predictive value and sensitivity 100%). In all 7 cases where the tests were not in agreement, open biopsy was benign. In these cases FNA (2 false positives) proved more accurate than PE (5 false positives). Mammography added no additional diagnostic information to the combination of PE and FNA. Compared with routine open biopsy, the combination of PE and FNA avoided surgical biopsy in 30 of the 51 lesions, and was associated with an average decrease in charges of up to $510 per case.

conclusions
The combination of PE and FNA for the evaluation of breast masses in males is diagnostically accurate and results in a reduction in patient charges compared with routine open biopsy.

Gynecomastia: Pathophysiology, Evaluation, and Management
Ruth E. Johnson, MD, and M. Hassan Murad, MD, MPH
Gynecomastia, defined as benign proliferation of male breast glandular tissue, is usually caused by increased estrogen activity, decreased testosterone activity, or the use of numerous medications. Although a fairly common presentation in the primary care setting and mostly of benign etiology, it can cause patients considerable anxiety. The initial step is to rule out pseudo-gynecomastia by careful history taking and physical examination. A stepwise approach that includes imaging and laboratory testing to exclude neoplasms and endocrinopathies may facilitate cost effective diagnosis. If results of all studies are normal, idiopathic gynecomastia is diagnosed. The evidence in this area is mainly of observational nature and lower quality.

Although breast cancer is rare in men, those with gynecomastia often become anxious and seek medical attention, making this presentation fairly common in primary care settings. Diagnostic evaluation of these cases can be costly and involves laboratory and radiographic testing; therefore, a diagnostic algorithm that facilitates step-by-step evaluation may be cost-effective and reduce the associated patient anxiety.

Overview of Gynecomastia in the Modern Era and the Leeds Gynaecomastia Investigation Algorithm
The use of Hematologic investigations is controversial as few cost-effective studies have undermined the significance of the regular use of those tests. However, many other centers are still recommending the use of those screening tools in the majority of adults with gynecomastia. There is no evidence base for any specific biochemical profile for the investigation of gynecomastia. In our unit, we use the tests suggested in this paper based on a literature review (19) and on advice from our consultant biochemist and endocrinologists who have a special interest in this area.

Mammography appears unnecessary in most men particularly in young male patients and should not be used as a routine imaging procedure. However, mammography is indicated in all clinically suspicious breast lumps or indeterminate cases after core biopsy (55). Where medical treatment is to be used, Tamoxifen is preferred as the safest and most cost-effective option although the drug is not licensed for use in this condition. Surgery is the most effective definitive treatment but is not without limitations or risks of complications.
Cost Effectiveness – Treatment for Axillary Hyperhidrosis

Two studies were listed on the NHS Centre for Reviews and Dissemination Economic evaluation database but both were for plantar hyperhidrosis only.

Treatment Options for Hyperhidrosis
Hobart W. Walling and Brian L. Swick

Treatment algorithm for axillary hyperhidrosis.
This algorithm takes relative cost into consideration but does not necessarily indicate cost-effectiveness.

Topical aluminum chloride
Apply to dry skin at bedtime and wash off in the morning; use nightly as tolerated until euhidrotic then decrease to maintenance frequency 2-3 times per week.

Botulinum toxin type A
Recommended dose is 1 U/cm^2 or 50 U per axilla for Botox®.

Add oral glycopyrrclate
Glycopyrrclate 1-2 mg can be taken up to three times per day.

Consider local surgery
Local surgery options include simple excision, curettage, or liposuction.

Consider referral for Endoscopic Thoracic Sympathectomy.

For axillary hyperhidrosis topical aluminium chloride is an excellent first option that may be sufficient for most cases and may be continued if other therapies are added. BTX is safe and well tolerated for the treatment of the axillae and requires no local anesthetic; cost, insurance authorization, and need for repeat treatment are limiting factors. Oral glycopyrrclate is a convenient and safe addition that may offer noticeable benefit; any adverse effects quickly remit on discontinuation. Local surgery may be helpful, though adverse effects may not be reversible and many dermatologists do not routinely perform such surgeries. ETS may be curative though is associated with higher risk and expense, and is generally available only at tertiary referral centers. Moreover, the less invasive surgical procedures discussed in section 4.2 (including axillary excision, curettage, and liposuction) are routinely performed by few dermatologists. Those with experience in these procedures may consider their place in treatment on an individual basis.
International Hyperhidrosis Society

Cost-Effectiveness and Budget Impact of Botulinum Toxin Type A (Bonta) Treatment for Severe Primary Axillary Hyperhidrosis Inadequately Managed with Topical Agents

Jonathan W. Kowalski, PharmD, MS1, David R. Strutton, PhD, MPH 2, Arliene Ravelo,

OBJECTIVE: The cost-effectiveness and budget impact of BoNTA treatment for severe primary axillary hyperhidrosis inadequately managed with topical agents in US managed care populations was assessed using an interactive economic model.

METHODS: An Excel®-based model was developed to estimate the cost-effectiveness and budget impact of an evidence-based treatment algorithm for severe primary axillary hyperhidrosis with BoNTA (50 Units per axilla) treatment following failure of topical aluminum chloride (TAC) and prior to surgery, compared to the treatment algorithm without BoNTA. User-modifiable elements included baseline prevalence from a 150,000 US household survey; population treatment characteristics from retrospective medical and pharmacy claims analyses; and pharmacy and medical unit costs for TAC, BoNTA, and surgery. The baseline perspective was that of a 1 million-member US managed care plan over a 1-year period. Baseline effectiveness rates, defined as the proportion of successfully treated patients, were based on reviews of published studies and the US pivotal phase III registration study for BoNTA.

RESULTS: Based on the incremental proportion of successfully treated patients (68% vs. 50%) and the incremental costs ($20K) to treat 75 patients with severe primary axillary hyperhidrosis, the estimated incremental cost per successfully treated patient for the treatment algorithm with BoNTA compared to the algorithm without BoNTA is approximately $1,400. The incremental per member per month total (pharmacy and medical) cost for the treatment algorithm with BoNTA is approximately $0.002.

CONCLUSION: BoNTA treatment for severe primary axillary hyperhidrosis inadequately managed with topical agents is cost-effective and provides meaningful benefit to plan members for a relatively small incremental cost to the plan.


Botulinum toxin treatment of axillary and palmar hyperhidrosis.
Sahlgrenska University Hospital, HTA-report 2012:45

Economical aspects
The cost per patient per year has been estimated to 8,200 SEK. This estimation is associated with a relatively high degree of uncertainty.

Concluding remarks
Botulinum toxin increases quality of life and reduces sweat production in comparison to both placebo and aluminum chloride in patients with primary axillary hyperhidrosis. The quality of evidence is stronger with regard to placebo than it is with regard to aluminium chloride. Also patients with primary palmar hyperhidrosis experience an increased quality of life and a reduced sweat production of similar magnitudes when BTX treatment is compared to placebo. However, the quality of evidence is not as high as it is for axillary hyperhidrosis. The duration of the treatment effect is three to seven months. Thus, the patients will need repeated injections, to an estimated cost of 8,200 per patient per year.
Present costs of currently used technologies
At present, patients with primary hyperhidrosis are not treated at Dermatotology clinics of the public sector in VGR. Because of this situation some patients seek care within the private sector. Currently, these patients privately pay the treatment costs. Other patients may be referred from general practitioners to the Sophiahemmet Hospital in Stockholm, which sends invoices to the Department for Administrative Affairs in VGR. A few patients have also been referred from the Dermatology clinic at Sahlgrenska University Hospital to Sophiahemmet Hospital. The costs for these patients were paid by the referring clinic.

During the period June 30, 2010 to November 6, 2011, i.e. a period of 1 year and 4 months, VGR was charged a total of 821,647 SEK for patients that had been directly referred from general practitioners to Sophiahemmet Hospital in Stockholm. One additional patient was referred from Sahlgrenska University Hospital to Sophiahemmet Hospital, because of compensatory hyperhidrosis. The total cost for these patients was 1.2 million SEK (year 2011). However, the number of patients referred from VGR to Sophiahemmet during 2011 could not be obtained from the invoice system at Sophiahemmet.

The estimated cost of BTX treatment in VGR would be 8,200 SEK per patient per year, if the treatment would be reintroduced, based on data from SÄS, VGR, from January to June 2011, including:
- Medication: 6,919 SEK (1,870 SEK (One ampoule 100E) x 3.7 [average number of ampoules per patient per year])
- Cost of doctor and nurse (time): 1,270 SEK

9b Expected costs of the new health technology?
The cost per patient and year has been estimated to be 8,200 SEK, and the number of patients in need of BTX to be at least 200 patients per year (see 2d above). This would yield a total cost of 1,640,000 SEK. However, this is probably an underestimation of the total annual cost since the general practitioner probably will refer more patients if the treatment becomes available in VGR.

9c Total change of cost
It is likely that the total cost will be reduced in VGR if BTX treatment for hyperhidrosis will be reintroduced. Thus, by not referring patients outside VGR would not need to pay extra for rent, personnel and travels. However, if the costs in VGR would increase substantially from the calculated 8,200 SEK/patient/year, the indications could be limited to treatments with high quality of evidence for a positive effect, or for certain degrees of disease severity.

9d Can the new technology be adopted and used within the present budget (clinic budget/hospital budget)?
No

9e Are there any available analyses of health economy? Cost advantages or disadvantages?
No cost effectiveness studies are available.