A 5-year evaluation of compliance with NHSGGC Primary Care Guidelines for the investigation of vaginal discharge in women of reproductive age

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Introduction

Bacterial vaginosis (BV) and vulvovaginal candidiasis (VVC) are important common causes of vaginal discharge. Evidence-based guidelines published by BASHH (British Association for Sexual Health & HIV) and jointly by Public Health England & the British Infection Association (BIA) outline best practice for the investigation of vaginal discharge in women of reproductive age[1,2]. The role of vaginal swabs and their associated diagnostic limitations in the management of vaginal discharge prompted the development of the NHS Greater Glasgow and Clyde (NHSGGC) Primary Care Guidelines[3]; the implementation of a standardised laboratory algorithm for processing specimens and the integration of guidance into the GP Order Comms system.

Aims

Following on from previous audits of compliance our aim was to evaluate the impact of the above interventions over the last 5 years.

Standards

The NHSGGC Primary Care Guidelines for the investigation of vaginal discharge in women of reproductive age suggests syndromic management, with empirical treatment of BV and VVC being advised if history, examination and vaginal pH are consistent. Based on this guidance, vaginal swab (VS) culture is recommended only if one of the following criteria are met:

- Recurrent symptoms
- Treatment failure
- Symptoms of PID
- Postpartum or Pregnancy
- Post gynaecological instrumentation

In accordance with this guidance a standardised laboratory algorithm and rejection policy was implemented such that only specimens that meet the above criteria or are deemed appropriate are processed. Any specimen not processed is authorised with a report comment referring to the GGC Primary Care Guidelines.

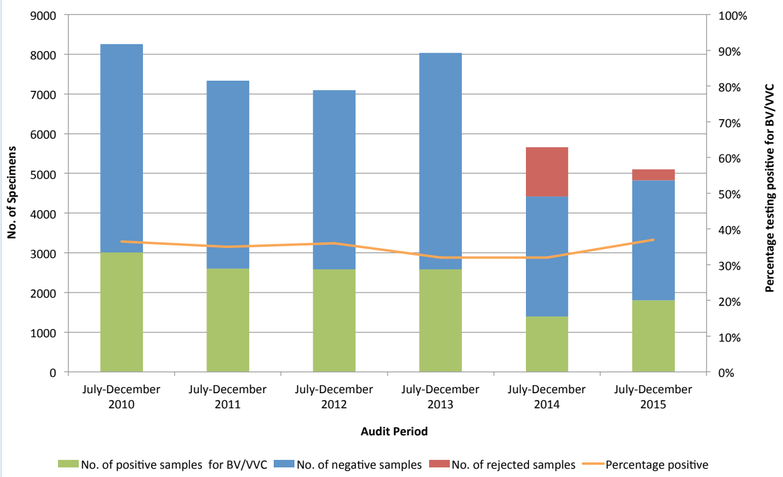
Interventions

In January 2011 the Primary Care Guidelines were issued. GP practices were provided with benchmark data on their utilisation of VS culture. From 2013 evaluation of compliance was assessed leading to re-publication of guidance to Primary Care users and implementation of a standardised laboratory algorithm across GGC Microbiology departments in May 2014. Integration of this guidance into the GP Order Comms system was rolled out to GP practices from July to December 2014. The demand management strategy involved a core Microbiology team which linked into diagnostic and primary care working groups. Effective communication and feedback between these teams was essential to ensure a successful and unified approach.

Table 1
Number of VS specimens received and processed for bacterial vaginosis (BV)/vulvovaginal candidiasis (VVC)

	July- December					
	2010	2011	2012	2013	2014	2015
Total No. of specimens received	8225	7336	7092	8035	5660	5098
Percentage reduction	-	-11%	-14%	-3%	-31%	-38%
No. of specimens rejected according to policy	-	-	-	-	1241	275
Percentage rejected	-	-	-	-	22%	5%
Total No. of specimens processed	8255	7336	7092	8035	4419	4823
No. testing Negative	5245	4738	4511	5447	3022	3022
No. testing Positive for BV/ VVC	3010	2598	2581	2588	1397	1801
Percentage Positive	37%	35%	36%	32%	32%	37%

Figure 1
Number of VS specimens testing positive for BV/VVC



Method

Data from our laboratory system (telepath) over five years was analysed (6 month time periods, July to December from 2010 to 2015). Data on specimens processed by the microbiology departments at the Southern General Hospital (renamed the Queen Elizabeth University Hospital; south sector) and Glasgow Royal Infirmary (north sector) that serve Greater Glasgow GP practices, was reviewed. Specimens included any sample labelled as vaginal swab. The total number of specimens received; number of specimens rejected as per the 2014 standardised laboratory algorithm and the percentage positive for BV/VVC (either on microscopy or culture) were assessed.

Results

Following publication of the Primary Care Guidance in 2011, a 14% reduction in the total number of specimens received was observed for the following year in 2012 (Table 1, Figure 1). Two years after the guidance was published, the number of specimens received returned to almost pre-intervention levels, with only a 3% reduction being observed. Implementation of a standardised laboratory algorithm and republication of the Primary Care guidance in 2014 resulted in a 31% reduction in the total number of specimens received. 22% of the 5660 specimens received were rejected, as they did not meet the appropriate criteria. Integration of the guidance into the GP Order Comms system at the end of 2014 led to a reduction of 38% in 2015.

Interestingly the proportion of specimens testing positive for BV/VVC from 2010 to 2015 ranged between 32-37%. No statistical significance however in the proportion of specimens positive for BV/VVC pre and post intervention was observed (p=0.3236; Chi-square with Yates correction).

Conclusions

Microbiology culture of vaginal swabs is a labour intensive resource demanding process. It is of limited diagnostic value in the management of vaginal discharge and as such evidence based guidelines recommend that vaginal swabs should only be taken in specific cases. Introduction of the NHSGGC guidance alone was not associated with a sustained reduction in the number of specimens being sent for culture. Development of a standardised laboratory algorithm for processing specimens, reintroduction of the guidance and its integration into the GP Order Comms system however resulted in a significant and sustained reduction. This equated to an annual saving of £81,122 (€104,974) for the south & north sector Microbiology departments for 2015 when considering that the average cost of processing a specimen is £12.93 (€16.73)[4]. Consultation with GP colleagues with each planned intervention was key.

A limitation of our audit method was that not every positive sample may have been representative of true VVC given that Candida colonisation has a reported incidence of 20-30%[5]. These observations however remain encouraging and warrant further discussion and evaluation.

References
1. PHE / BIA: Management and Laboratory Diagnosis of Abnormal Vaginal Discharge Quick Reference Guide. First Produced 2002: Latest review posted on website July 2013
2. BASHH: Management of Vaginal Discharge in Non-Genitourinary Medicine Settings (2012). Published by the Faculty of Sexual and Reproductive Healthcare First published in 2012
3. NHSGGC: New Primary Care Guidelines for Investigation of Vaginal Discharge in Women of Reproductive Age (2011) http://www.staffnet.ggc.scot.nhs.uk/Partnerships/Greater%20Glasgow%20and%20Clyde%20Services/Primary%20Care%20Support/Practice%20Nurses/Documents/STI_Redesign_HVS_Chlamydia_Resource_Pack.pdf
4. Laboratory Services Costs – Detailed tables. ISD Scotland (2013) Site:http://www.isdscotland.org/Health-Topics/Finance/Costs/Detailed-Tables/Laboratory.asp. Accessed: 04/03/2016
5. Jacqueline M. Achkar and Bettina C. Fries. Candida Infections of the Genitourinary Tract: *Clin. Microbiol. Rev.* 2010, 23(2):25