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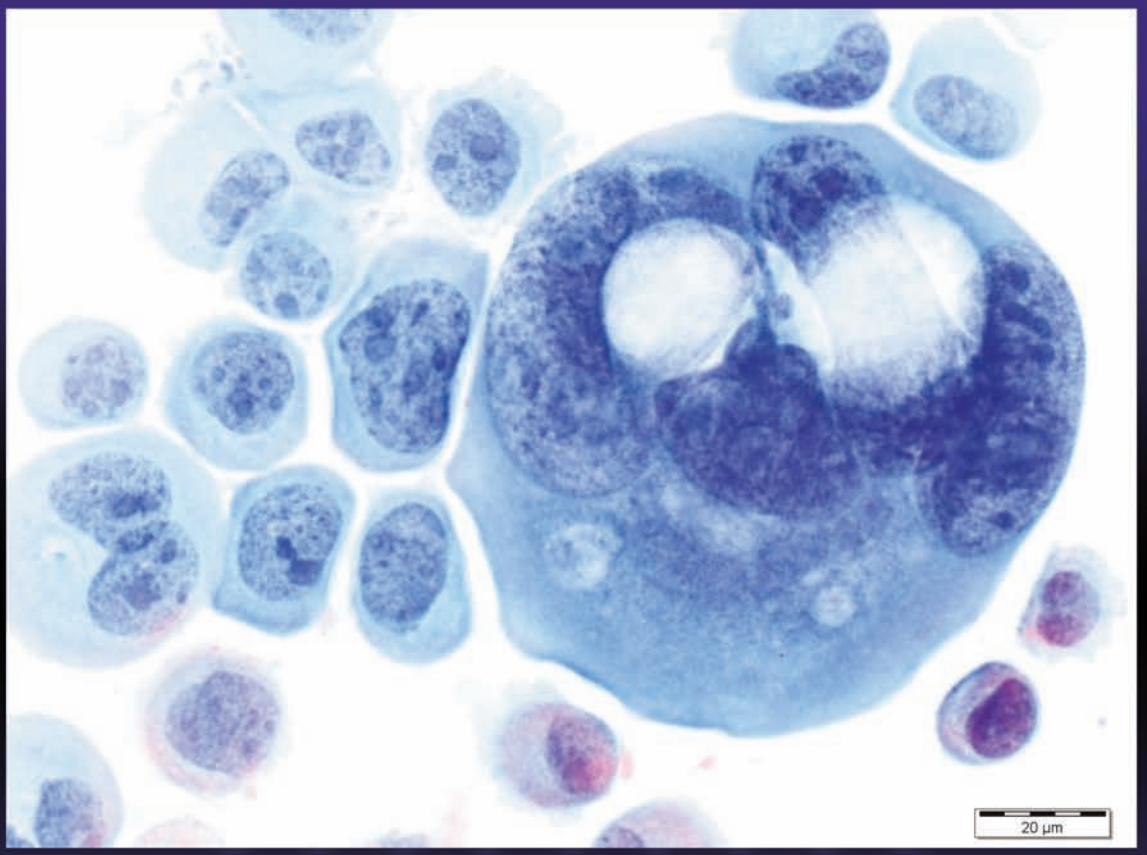

BAC British Association for Cytopathology

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Editorial

Andrew Evered

The enthusiastic contributions to this issue of SCAN are more than enough evidence of a fresh injection of energy and optimism from the recently formed BAC executive. Although it is probably unfair to single out one person as a major driving force behind recent developments within the Association, I am going to do it anyway, which will no doubt embarrass the man tremendously. Dr Paul Cross has certainly made his presence felt since joining the executive. Paul is as busy as the rest of us but has worked tirelessly to get the wheels of the new website and the new-look SCAN in motion and to keep the bearings well oiled. I would like to thank Paul openly for his creative ideas and endless hours of work (not to mention the emails!) at a time when there is very little slack in the system for "extra-curricular" activities.

I must of course also congratulate every other member of the team for assembling an excellent array of speakers and activities for the Annual Scientific Meeting in September. What we all witness at conference is the result of several months of negotiations and meetings to ensure that members not only get value for money and quality CPD, but also enjoy a superb social occasion. None of this would be achievable without the close teamwork that the new executive is clearly demonstrating. Well done to all of you; everyone I have spoken to about the BAC at local and national level have had nothing but positive words to say. Keep up the great work!

The formation of the BAC is a fantastic start to what I feel is a new era for cytology. I for one am convinced that the BAC will provide the bedrock for the continued existence of our discipline for many decades to come. With rapid advances in molecular techniques and machine vision technology many of us fear for the future of cytology. I think this fear is unfounded for the following reason. Decades of research in disciplines as diverse as cognitive science, clinical decision making, vision science and applied psychology have amply demonstrated the high level of sophistication of the human visual system, on which cytologists base their daily practice. Equally intensive research in the very different fields of computer vision and cancer biomarkers have so far failed to discover anything that comes even close to equalling the capabilities of the human eye-brain system. To those who might be dreaming of a future for cancer detection without cytology, a word of warning: discard the power of the cytologist's visual cortex at your peril!

Copy date for SCAN October edition — 6th August 2012 to be sent to sharon.roberts-gant@ouh.nhs.uk

INFORMATION FOR CONTRIBUTORS

Articles for inclusion in SCAN can be emailed to the editor if less than 1MB in size or supplied on CD/DVD or memory stick. Text should be in a standard text format such as a Word document or Rich Text Format (rtf file). Please supply images as separate files in tiff or high quality jpeg files at a resolution of not less than 300 dpi (600 dpi if the image includes text). 35mm slides and other hard copy can be supplied for scanning if no electronic version is available. Graphs are acceptable in Excel format.

If you are unable to supply files in the above formats or would like advice on preparing your files, please contact Robin Roberts-Gant on 01865 222746 or email: robin.roberts-gant@ndcls.ox.ac.uk

Chairman's Column

Allan Wilson

All new organisations take time to settle and the new BAC executive is no exception. The executive has now met twice and has a third meeting planned for 1st March. It has been hard work to create a new structure by "cherry –picking" from elements of the previous NAC and BSCC models. Another complication is that the focus of both the NAC and BSCC during 2010/11 was the merger itself. Now that this is settled it is time to catch up and re-focus on the challenges facing the cytology community.

The subcommittees listed in the previous edition of SCAN have been working hard in the background, largely making use of teleconferencing and emails to try and whittle down the long list of actions from the first two meetings. Considerable progress has been made and you will see evidence of this in the reports elsewhere in this edition. I would like to thank all the subcommittee members and in particular the chairs of these groups for the hard work to achieve such progress in a short time. Full reports are elsewhere in this edition but in summary we have made great progress in the following areas:

- Website — now up and running and looking very professional. Please visit the website and let us have your feedback. It is not yet the finished article but already contains a wealth of information and we have plans to greatly increase the educational content for CPD and CME.
- The annual scientific meeting (ASM) — the programme for the ASM in September is almost complete and I think we have an exciting and thought provoking programme which will be attractive to all BAC members.
- Membership issues — we are close to a complete members email distribution list and this will become our main method of communicating with members. If you have not already supplied an email address please contact Christian at the office.
- Non-gynaecological cytology — the group is investigating a non-gynaecological cytology technical EQA scheme and tabled a proposal at the conjoint board meeting on 10th February 2012 on the future role of biomedical scientists in non-gynaecological cytology.

It has been heartening to observe the steady trickle of new members joining our Association and the interest in filling the 12th position on the executive which has led to the recently distributed ballot paper. This demonstrates a continuing interest in the BAC and bodes well for the future. We are planning future events to further increase membership and to get input from new and existing members to help shape the future of our Association.

I am sure we all experienced an increase in workload at the tail end of 2011 due to the third anniversary of Jade Goody's diagnosis of cervical cancer. As we plan for a similar increase in workload on the third anniversary of her death it is time to reflect on the vital role of the cytology based screening programme. HPV testing already has a role in the screening programme and it is likely that this role will expand in the future. However, we must ensure that we maintain the current high standards in cervical cytology that has made the UK cervical screening programmes the envy of most other countries. This will involve a difficult balancing act to retain and develop the skills required to ensure we can deliver what will remain a cytology-based programme for the foreseeable future.

One of my duties as Chair of the BAC is to attend the *Cytopathology* editorial board meetings. I attended my first meeting in December which was also attended by members of the European cytology associations. Discussions at the board meeting reinforced my view that our cervical screening programme is indeed the envy of Europe but we are lagging behind in the clinical application of non-gynaecological cytology. It is clear that two of the main aims of the BAC should be:

- To protect the cervical screening programme and ensure we meet current standards in the face of an uncertain future and decisions in neighbouring countries to move to HPV primary testing.
- To develop non-gynaecological cytology to match and even exceed what has been achieved in other countries. To achieve this we must learn from the UK laboratories that offer best practice in this area and also look to other countries who have used molecular techniques to integrate non-gynaecological cytology into a modern healthcare service.

These two short objectives will underpin most of the work carried out by the executive over the next few years and have informed our thinking when putting together the programmes for the Spring tutorial and the ASM in September. We hope to see as many members as possible at both events.

Know your executive! Subcommittee structure of the BAC

Wondering what the executive officers get up to? Well, wonder no more!

Education SC (ESC)	**Conference SC (CSC)**	**Non-gynae working group (NGWG)**
Fraser Mutch (chair)	Alison Cropper (Chair)	Tom Giles (Chair)
Jenny Davies (CEC)	Paul Cross (Scientific programme)	Paul Cross
Karin Denton	Fraser Mutch (ESC chair)	Louise Smart
Tom Giles	Trade rep*	Allan Wilson
Alison Copper (CSC chair)	Kay Ellis	
Membership SC (MSC)	**R&D subcommittee (R&DSC)**	**Publications/website SC (PSC)**
Louise Smart (chair)	Mina Desai (chair)	Paul Cross (chair)
Christian Burt	Karin Denton	Andrew Evered
Sue Mehew	Andrew Evered (website)*	Amanda Herbert (Cytopathology)*
Allan Wilson	Jackie Jamieson*	Sharon Roberts-Gant (SCAN)*
Mina Desai		

Additional Roles

- Although there is no formal finance subcommittee, an ad hoc group consisting of the treasurer, shadow/deputy treasurer and the chairman will discuss finance issues.
- Jenny Davies has been appointed as the BAC representative on the IBMS Cytopathology Scientific Advisory Panel.
- Karin Denton, Tom Giles, Fraser Mutch and Alison Cropper are the BAC representatives on the National Cervical Cytology Education and Training Committee (NCCETC). This representation will be under regular review
- Sue Mehew and Tom Giles are the NCCETC exam subcommittee representatives.
- Mina Desai is the BAC representative on the Advisory Committee on Clinical Excellence Awards (ACCEA).
- Karin Denton is the BAC representative to the Royal College of Pathologists.
- Allan Wilson and Karin Denton are the representatives on the European Federation of Cytology Societies (EFCS) and the Cytopathology editorial board.

Summary of Roles

Rosie Clarke*	National Quality Assurance Advisory Panel (NQAAP) rep			
Alison Cropper	Chair CSC	ESC member	NCCETC	
Paul Cross	Programme lead CSC	NG WG member	Chair of PSC	
Jenny Davies	ESC member	CEC organiser	IBMS rep	
Karin Denton	President	ESC member	NCCETC	RCPath
Mina Desai	R&DSC chair	MSC member	ACCEA	
Kay Ellis	Treasurer	CSC member		
Andrew Evered*	Webmaster	PSC member	R&DSC	
Tom Giles	Chair of NGWG	ESC member	NCCETC	NCCETC ESC
Amanda Herbert*	Cytopathology editor	PSC member		
Jackie Jamison*	R&D SC member			
Sue Mehew	Secretary	MSC member	NCCETC ESC	
Fraser Mutch	ESC chair	CSC member	NCCETC	
Sharon Roberts-Gant*	Editor SCAN	PSC member		
Louise Smart	Chair of MSC	NGWG member		
Allan Wilson	Chair	NGWG member	MSC member	
Trade rep*	CSC member			

*Co-opted members

Newsflash Following recent elections for a 12th member to join the BAC Executive Committee we are pleased to announce that Melanie Buchan, a Cytology Screener from Derby, has been elected.

Cervical Screening & Colposcopy Services in the Tigray Region of Ethiopia

Dr Julia Palmer,[1] Dr Anni Innamaa,[2] Mr John Tidy, [3] Mr Tom Farrell.[4]

Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK

Consultant Gynaecological Oncologist / Lead Colposcopist.[1]
Sub-specialty Trainee Gynaecological Oncology.[2]
Consultant Gynaecological Oncologist.[3]
Consultant Obstetrician & Gynaecologist.[4]

Introduction:

Since the implementation of the UK cervical screening call and recall system in 1988, both cervical cancer incidence and mortality have fallen dramatically. Because cervical screening identifies abnormalities before they develop into cancer, the incidence of cervical cancer almost halved in the first ten years of organised screening. Incidence rates now remain low, almost half that of the world average. [1] In 2007, 2,828 new cases of cervical cancer were diagnosed in the UK, making it the eleventh most common cancer in women and accounting for around 2% of all female cancers. [2]

Worldwide however the incidence of cervical cancer remains high. Cancer of the cervix uteri is the second most common cancer among women worldwide, with an estimated 529,409 new cases, and 274,883 deaths in 2008. About 86% of the cases occur in developing countries, representing 13% of female cancers. [3]

Ethiopia has a population of 20.90 million women ages 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 4,648 women are diagnosed with cervical cancer and 3,235 die from the disease. Cervical cancer ranks as the 2nd most frequent cancer among women in Ethiopia, and the 2nd most frequent cancer among women between 15 and 44 years of age. [4] For the year 2025, the projected number of new cervical cancer cases is estimated at 7,700 with projected deaths from disease estimated at 5,541. [4]

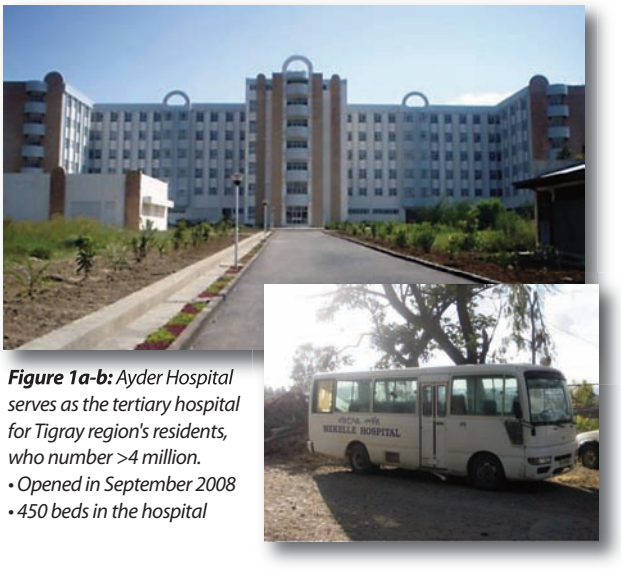

Figure 1a-b: *Ayder Hospital serves as the tertiary hospital for Tigray region's residents, who number >4 million.*
• Opened in September 2008
• 450 beds in the hospital

In November 2011 the authors travelled to Ayder Hospital in Makelle, which lies within the Tigray region of Ethiopia. The Tigray region has an estimated total population of approx. 4,803,000 with only 19.53% of the population inhabiting urban areas. Makelle has an estimated population of 261,200, [5] with Ayder hospital in Makelle serving as a major tertiary referral centre for the Tigray region (see Fig 1). The aim of the visit was to identify the problems encountered with cervical screening and to identify the best way forward in setting up a colposcopy or screening service. The trip was planned as part of the Sheffield Health Action Resource for Ethiopia, Women's Health Division. Before embarking on a trip to Ethiopia we were asked by our cytology colleagues in Sheffield to ascertain the level of cytology service available to the women of Makelle in the Tigray region.

Cervical Screening in Ethiopia:

It is likely that the incidence of cervical cancer in Ethiopia is actually higher than figures quoted due to the low levels of disease awareness, limited access to screening services, a lack of a centralised / National cancer registry, and costs. In view of limited access to screening services and low levels of awareness women tend to present at an advanced disease stage. Cervical cancer mostly affects women in Ethiopia over 30yrs of age, and peaks in the 40–45 yrs age group. Unfortunately those women most at risk tend to be poor, living in rural areas, suffering with HIV, having poor access to medical services.

In 2006, WHO identified cervical screening coverage as a crucial component for providing effective prevention for cervical cancer.[6] In resource poor settings this was a strategy open for question with coverage in Ethiopia reported as poor (see Table 1).

Table 1: Cervical Screening Coverage in Ethiopia 2010. [4]

• 0.6% (All women aged 18-69 yrs screened every 3yrs; WHS Ethiopia)
• 1.6% (Urban women aged 18-69 yrs screened every 3yrs; WHS Ethiopia)
• 0.4% (Rural women aged 18-69 yrs screened every 3yrs; WHS Ethiopia)

The UK has developed rigorous and robust systems within the call and recall service, hence the success of the cervical screening programme. In contrast, Ethiopia has received little investment in the infrastructure required for providing a cervical screening programme, suffering with minimal laboratory capacity and a lack of education and training; not to mention a lack of funding to cover the costs of laboratory equipment and supplies, transportation of specimens, and administration / program-related activities. [7]

The present situation in Makelle is that there is no cervical screening service. There are no trained cyto-screeners meaning the pathologist would need to report all samples. The pathology service has only been fully functioning for 1–2 years and covers all pathology requests. At Ayder hospital the stark reality is that a single pathologist currently serves the entire Tigray region serving a population of > 4.5 million.

HIV& HPV Burden in Ethiopia:

It is estimated that there are 534,000 women over the age of 15yrs living with HIV in Ethiopia. These women are more readily infected with certain types of HPV, more likely to develop precancerous lesions, and more vulnerable to rapid development of these lesions than HIV-negative women. [8]

Data is not yet available on the HPV burden in the general population of Ethiopia. However, in Eastern Africa, the region Ethiopia belongs to, about 33.6% of women in the general population are estimated to harbour cervical HPV infection at a given time. [4] At present, a quadrivalent vaccine is licensed for use in Ethiopia, but not available. WHO have indicated that a five year vaccination initiative could prevent one million deaths from cervical cancer, with most of these deaths being prevented in resource-poor settings. [4] Several concerns about this policy have recently been highlighted however [9] including:-

- Are we targeting the correct HPV types?
- Can we ensure effective coverage?
- Are costs prohibitively high?
- Problems with need for future cervical screening

It seems therefore that HPV vaccination may well need modifying for resource poor settings with particular attention paid to reducing costs and providing a single dose vaccination to contend with poor access and utilisation of health services. [10]

The Colposcopy Service, Ayder Hospital, Makelle.

On arrival at Ayder Hospital we discovered a functioning colposcope; yet sadly no one trained to use it (see Fig 2). There was provision of a functioning diathermy machine but again no one trained to use it; there were also no loops / diathermy balls, and the cutting facility on the machine was faulty. The suction machine was also broken. There was no acetic acid or Lugol's solution, and no facility or equipment to perform ablative techniques. As aforementioned, there was also only a limited biopsy reporting service. We provided acetic acid and diathermy loops & balls, but due to the equipment deficiencies all we could offer was visual inspection with acetic acid and radical diathermy as treatment. We also provided training for the Doctors and nurses present, although on our first visit this was rather hectic (see Fig 3).

Figure 2a-b: *Although equipment was available it was largely malfunctioning with no one trained to actually use it. Sterile services were lacking and patient packs with instrumentation were lacking.*

Figure 3a-d: *Training with the colposcope was somewhat hectic but we found all medical staff keen to learn and very quick students.*

Potential Future Options for Makelle:

Access to hospitals and medical staff is limited throughout Ethiopia, and women need to travel many miles for hospital-based healthcare where trained medical staff are lacking. Cervical screening based upon the UK model is certainly not feasible at present and we need methods of screening and assessing women that achieves the fewest number of visits and does not require follow-up. The method that achieves the fewest number of visits is to screen, diagnose & treat in one session with an aim to reduce costs, reduce loss to follow-up, and potentially discharge HPV negative women. [10]

In view of the failure of cytology screening programmes for cervical cancer in developing countries, the World Health Organization suggested unaided visual inspection of the cervix after an application of acetic acid (VIA) and Lugol's iodine (VILI) as alternative screening methods. [11] HPV DNA testing has also been suggested as an alternative to screening. Both of these methods however have associated advantages and disadvantages (see Table 2). To date, although suggested by WHO, efficacy and cost-effectiveness of VIA-based population-screening programmes in reducing the incidence of and mortality from cervical cancer remains to be established. VIA has also shown to be inconsistent in its performance across different settings, and within the same setting, variously being shown to reduce or have no effect at all on cervical cancer mortality rates in large prospective trials. [12-14]

Table 2: Advantages & Disadvantages of VIA & HPV DNA Testing. [12]

Visual Inspection with Acetic Acid	
Disadvantages	Advantages
Low specificity (generally <85%), which can lead to over investigation and overtreatment of screen-positive women.	Simplicity and low cost.
Lack of standardised methods of quality control, training and competency evaluation.	Real-time availability of results.
It is limited in its ability to detect endocervical disease.	Potential for immediate linkage with investigations / treatment.
	Consistent estimates of accuracy, feasibility to be offered in low-resource settings and the possibility of rapid training of providers.
	A major advantage of VIA has been the possibility of treatment (cryotherapy) in the same session as an abnormality is detected, this obviating the need to bring women back for diagnosis and treatment, with the associated costs and risk of failure to attend.
HPV DNA Testing	
Relatively high costs compared to cytology and VIA.	
Dependence on reagents currently produced by only a single commercial manufacturer.	
Requirement for a molecular diagnostic laboratory.	
Low specificity in younger women and questionable in populations with significant rates of HIV seropositivity.	

In view of the issues raised with regards to the use of VIA and HPV DNA testing further alternatives are required. In April 2009, a study investigating HPV screening for cervical cancer in rural India. showed that in low-resource settings, a single round of HPV testing significantly reduced the number of advanced cervical cancers and deaths, compared with either Pap testing (cytology) or visual inspection with acetic acid (VIA). [14] QUIAGEN are presently developing the *careHPV*™ test. Once collected, samples of vaginal or cervical cells are prepared for analysis using a kit of reagents that contains its own water supply and the testing itself is conducted on easily portable equipment that will run on batteries. The test can be run by a healthcare worker with minimal laboratory training, and can be performed in any setting (neither running water nor mains electricity is required). Cervical cell samples can also be self-collected by the patient herself with results available within two-and-a-half hours, allowing both screening and follow-up treatment of precancerous lesions, if required, to take place during a single visit. [15] A trial has demonstrated that the QUIAGEN careHPV™ Test had a 90% clinical sensitivity for identifying moderate or severe cervical disease (CIN 2+), higher sensitivity than either VIA or liquid-based Pap testing (VIA and Pap testing had clinical sensitivities of 41% and 85%, respectively). [16] Studies are currently ongoing and at present an application has been made for inclusion on the World Health Organization (WHO) prequalification list.

The research group in Sheffield has been investigating the use of electrical impedance spectroscopy (EIS) as a tool to identify CIN. EIS can be measured across a range of current frequencies and used to identify tissue types. Impedance is influenced by cell layering, intra and extra-cellular spaces and the capacitance of the cell membranes.

We have previously evaluated the ability of EIS to discriminate different cervical tissues by developing a 3-dimensional cellular model of the cervical epithelium. The model was created using a numerical analysis method routinely used in the solution of physics field problems. This hierarchical modelling process (finite element model) comprised of a cellular level stage, which included detailed models of cells types and then generation of models of both normal and abnormal cervical epithelia. [17]

We have published a series of papers evaluating EIS in detecting CIN.[18,19] Our current device, the APX100, consists of a battery driven hand held unit, a base station to allow data to be downloaded to a laptop and for re-charging of the device, a disposable single-use sheath that covers the snout of the hand held unit, and associated software. Before clinical use a sheath is placed over the snout of the device. The device is robust and simply requires a power source to charge the unit and laptop.

Up to 12 EIS measurements are taken from the cervix after application of acetic acid. The EIS data is then analysed, in real time, by comparing the measured spectra with templates corresponding to normal squamous epithelium, columnar epithelium, immature metaplasia and high grade CIN generated from 3-D finite elements models of the four tissue types. Using a cut off value the device will provide a result of HG-CIN present or absent. Using this type of result would therefore permit immediate management decisions. The performance of VIA is variable with a low specificity. To date our studies have been performed in colposcopy clinics in the UK. We now plan to evaluate the APX100 in low resource settings as adjunct to VIA or HPV testing.

Conclusions:

One of the key issues for Ethiopia at present is education; not only for the women of Ethiopia, but also for its key medical staff and health care workers. This in itself poses a huge challenge. Establishing opportunistic cytological and colposcopic assessment for women at Ayder Hospital is potentially feasible, sadly however this system will only reach an estimated 4% of the local population, i.e. the limited population that actually utilise the hospital services. At present we have identified a lead link clinician for education and training. We will be returning to Ethiopia later in 2012 to trial VIA, electrical impedance spectroscopy, and hopefully *careHPV*™, in an aim to identify the initial best way forward to diagnose and treat the women of Makelle. In the meantime we are setting up a learning package in cervical screening and colposcopy for the medical staff at Ayder Hospital. Educational campaigns throughout the wider healthcare setting will need to occur however once Ayder Hospital has established its practice.

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Have you guessed what it is yet?

A case study from Melissa Ellis

Senior Biomedical Scientist in Cytology, Stoke Mandeville Hospital Aylesbury

Clinical presentation

A 24-year-old woman attended for a routine LBC cervical sample but on taking the sample the nurse noted that the cervix was grossly abnormal. The woman had been experiencing post-coital and intermenstrual bleeding without pain for the last 6 months. Due to the very abnormal appearance of the cervix the nurse referred the woman for a gynaecological examination.

LBC Cytology

The sample was very bloodstained and contained many rounded groups of abnormal glandular cells with prominent nucleoli and cytoplasmic vacuolation (figures 1-3). A tumour diathesis was also present. The sample was reported as glandular neoplasia, possibly endocervical in type.

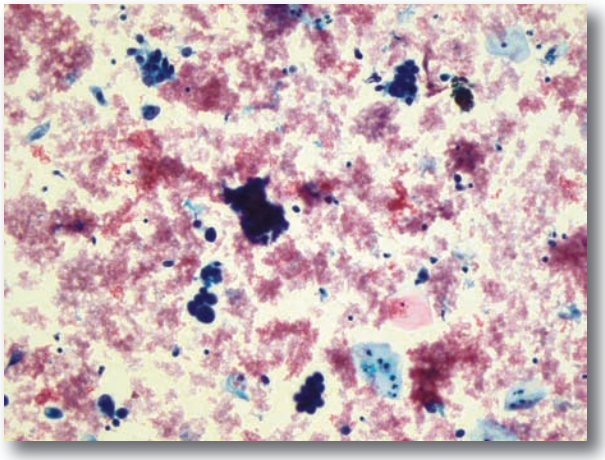

Figure 1. Low magnification cytology showing several groups of abnormal glandular cells and tumour diathesis.

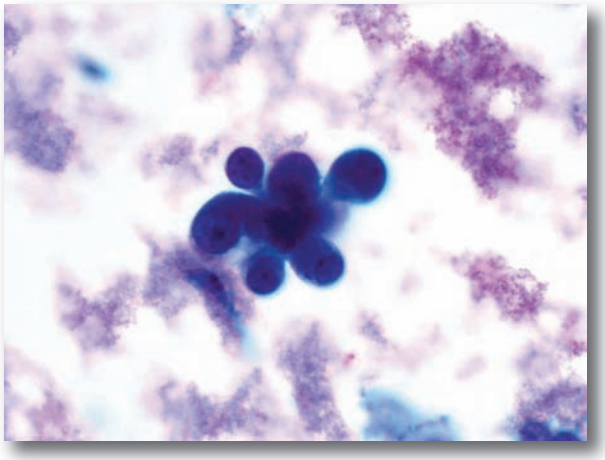

Figure 2. An acinar group of abnormal glandular cells on high magnification.

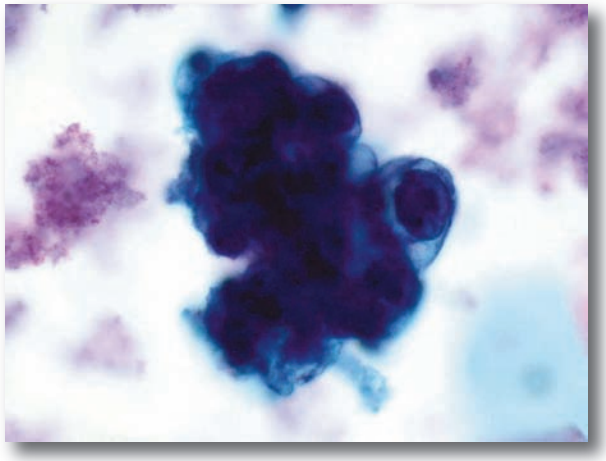

Figure 3. A three-dimensional ball of abnormal glandular cells

Follow up

On gynaecological examination there was no lymph node enlargement and the abdomen was normal. However, a 4cm cervical tumour was noted and the woman was referred directly to the regional cancer centre.

A cervical biopsy was performed which showed closely packed glands with virtually no stromal tissue (figure 4). The lining epithelial cells appeared clear, tall and columnar with marked nuclear pleomorphism and high nuclear:cytoplasmic ratios. "Hobnail" cells are also noted. Nucleoli were prominent and mitoses numerous. The glandular lumina contained necrotic debris. Overal, the appearances were consistent with a grade 3 clear cell adenocarcinoma.

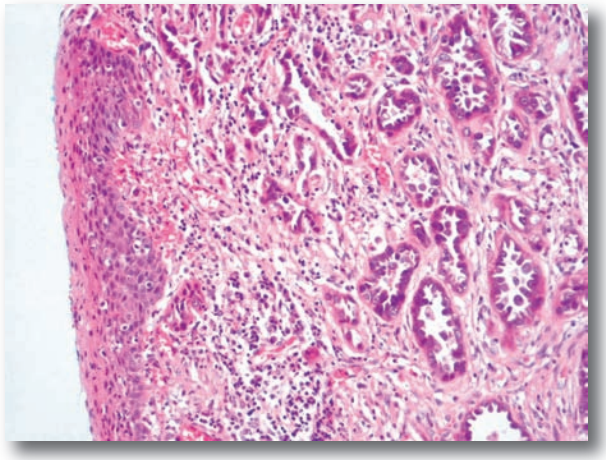

Figure 4. Cervical biopsy showing clear cell adenocarcinoma. Epithelial nuclei are located in the apical cytoplasm next to the luminal space, giving the classic hobnail appearance (Curran and Jones, 1991) The clear gap in the cytoplasm previously occupied by the nuclei give the tumour its name.

The woman subsequently had a Wertheim's hysterectomy which confirmed a high grade, moderately differentiated clear cell adenocarcinoma of the cervix (figure 5). She made a full recovery.

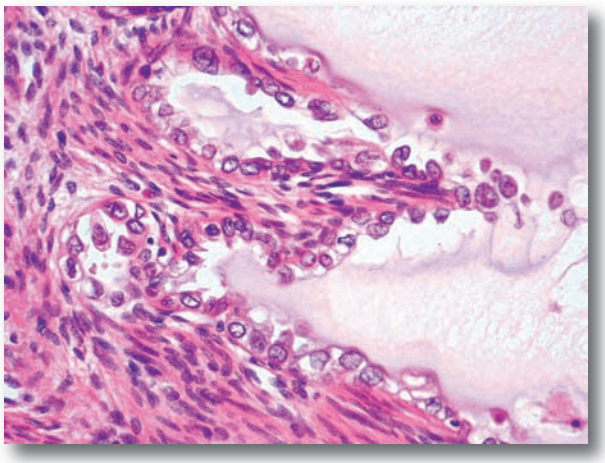

Figure 5. Histology of the hysterectomy specimen confirmed a clear cell adenocarcinoma

Discussion

Clear cell adenocarcinoma of the cervix is a very rare tumour accounting for only 2 – 7% of all cervical adenocarcinomas (Yabushita *et al*, 2008) and is of Mullerian origin. The tumour spreads readily to the lymph nodes and recurrence is common, despite these features the prognosis for this disease is good with a five year survival rate of over 50% (Curran and Jones, 1991). Some studies suggest that low risk early stage clear cell adenocarcinoma can be managed by radical surgery without the need for adjuvant chemotherapy or radiotherapy. (Thomas *et al*, 2008)

Clear cell adenocarcinoma is associated with in utero exposure to Diethylstilbestrol (DES), which is also implicated in vaginal clear cell adenocarcinoma and vaginal adenosis (Demay, 1996). DES is a non-steroidal oestrogen that was often given during pregnancy between 1940 and 1970 but has not been used for many years. Although DES-linked conditions are decreasing in number the incidence of clear cell carcinoma of the cervix in young women without previous DES exposure is increasing, the reasons for which are unclear. Many such cases have been reported in the literature (Yabushita *et al*, 2008 and Seki *et al*, 2003).

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- Yabushita, H. Kanyama, K. Seklya, R. Noguchi, M. Wakatsuki, A. Clear Cell Adenocarcinoma of the Uterine cervix in a 17 year old adolescent *International Journal of Clinical Oncology* (2008) **13,** 552–554

BAC website live!

Paul Cross

Like all good societies you need a website — and the BAC is no different. Trying to build on the best features from the previous NAC and BSCC websites and from web design in general we launched the BAC website in mid January. If you haven't already visited it then shame on you! Rush straight to your keyboard and tap in www.britishcytology.org.uk and take a peek. Quickly add it to your favourites so you can find it again easily.

The simple Home Page allows you to easily navigate the current site. We have deliberately started off fairly simple and with a basic structure on which we can build. The pages allow you to keep up to date with the field of cytology in general, and of course the BAC in particular. The site will keep you informed about all BAC developments as a society, but also of its meetings, and especially the Annual Scientific Meeting for later this year in September. We are also keen to ensure that laboratory and training school details are correct and up to date — if you spot some old or incorrect material then let us know — we are only as good as our members! The site also links directly to Wiley Blackwell, who publish the BAC scientific journal *Cytopathology* which as members we all now receive.

The site will be kept up to date and developed further. The educational role of the site will be used to construct teaching cases/modules that will be able to be used for self-learning. We aim to use the site as a tool to survey members on issues, and keep in touch with all members.

You may (or may not) like the site. If you have ideas for it (or an issue about it!) then please tell us! The site must be of use to members and a living site, not a dead one. Go on — have a look — you might even enjoy it!

CEC Local Officers (Spring 2012)

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Please remember to make a copy of everything before it is sent — there have been one or two losses in the post. Thank you.

CEC News – Spring 2012

Jenny Davies

Nothing much to report at present. Discussions about the new certificate design are ongoing and I am awaiting samples. The scheme is ticking along nicely and I will endeavour to keep on top of incoming books so I don't get a backlog. Books received after December 2011 will be verified and returned without a certificate, as it now seems inappropriate to use the original NAC certificate. I will keep a record and send them on when the new ones are available.

If you haven't already transferred to the new scheme, please send your book to me even if you haven't reached the 300 points — and I will bring them forward into the new one to maximize the use of the new scheme credits.

Transferring individuals to the new scheme has proved to be fairly easy and straight forward, but don't be alarmed if I contact you to get up-to-date credits to transfer. You will not lose any — CREDITS ARE NOW CARRIED OVER: I am carrying over credits in excess of 300 to the new book.

PLEASE DO NOT USE THE NEW GUIDELINES UNTIL YOU HAVE TRANSFERRED TO THE NEW SCHEME. This will confuse things (i.e. me!) when I am doing the paperwork; I will sort that out.

Well done once again to everyone participating in the scheme, please keep it up.

Journal Based Learning

Now on to this issue's JBL exercise. Just one JBL again — 10 questions — 10 credits (marks are listed in brackets against the questions). For submission, same instructions as before — photocopy the page and send your answers to me, or your Local Officer, for marking — there is no need to send your book.

Please try to do the JBL's as they come up in each issue of SCAN. JBL's more than 12 months old should be considered closed. Only one submission of each JBL will count.

Remember to keep a copy. Please include your name, CEC number, and as we are not receiving your book, your return address.

Good news — membership numbers rising!

Louise Smart

Chair, membership subcommittee

The membership of the BAC is looking very healthy with over 800 members. We are pleased to report that existing members are renewing their subscriptions … a gentle reminder for those of you that still have to do so! We are now also regularly receiving new applications for membership which is excellent as the BAC is very keen to welcome new members. If any of your colleagues wish to join, the application process is very straightforward with application forms available for download from the BAC website at:
www.britishcytology.org.uk/membership/aboutus.asp#join

The BAC will soon be moving to email as the main means of communicating directly with members and informing you of the Association's activities and events. Christian Burt, the BAC administrator, has been working hard to ensure that we have up to date email addresses for members but it would be helpful if you could inform him if your email address has changed recently (mail@britishcytology.org.uk).

Apoptosis and cell proliferation correlated with tumour grade in peritoneal fluids of patients with serous ovarian cancer.

A. Kalogeraki *et al.*

Cytopathology 2011, **22**, 383–386

Number of marks per question are in brackets (total 10)

1. Give the definition of apoptosis as outlined in this paper (1)

2. What is the primary cause of the high mortality of this particular tumour? (1)

3. The authors used the TUNEL assay. What does this stand for? (1)

4. What was MIB-1 used for? (1)

5. Postoperative outcome is dependant upon what factors? (1)

6. The authors found no correlation between MIB-1 and TUNEL positivity. TRUE/FALSE (1)

7. MIB-1 positivity was found to be higher in Grade 1 tumours than Grade 3 tumours. TRUE/FALSE (1)

8. Other gene products have been implicated in a cell's susceptibility to apoptosis. What are they? (1)

9. What is the more usually believed association between apoptosis and tumour progression? (1)

10. Why have results of studies of apoptotic index been considered paradoxical? (1)

Name..... CEC number (if known).....

CEC Scheme Sponsorship

On behalf of the BAC executive, and I am sure all the members, I would like to express my thanks to the following companies for the support they have loyally shown in the development and growth of the CEC Scheme. Now that the scheme is changing, I hope that this support will continue, and indeed that the group will grow to support the ongoing developments of CEC.

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Hologic (UK) Deborah Purvis Tel: 01293 522080 e-mail: ukreception@hologic.com website: www.hologic.com	**Carl Zeiss Ltd** (Rene Hessler) 15 – 20 Woodfield Road Welwyn Garden City Hertfordshire AL7 1JQ Tel: +44 1707 871200 e-mail: micro@zeiss.co.uk website: www.zeiss.co.uk

This list will be regularly reviewed for each issue of SCAN, and on the BAC website. If any of the companies listed above have any changes of details to report at any time, please let Jenny Davies know by e-mail — jenny.davies@cmft.nhs.uk

Membership Details

Please email or write to Christian Burt if any of your contact details change.

Email: mail@britishcytology.org.uk

BAC Office, 12 Coldbath Square, London EC1R 5HL

Quick Quiz

Dr Diane Hemming

Consultant Cellular Pathologist

Queen Elizabeth Hospital, Gateshead

A 64-year-old woman presented for breast screening with irregular density in the right lower half of her breast. A fine needle aspiration was performed (figures 1–3). What is your diagnosis?

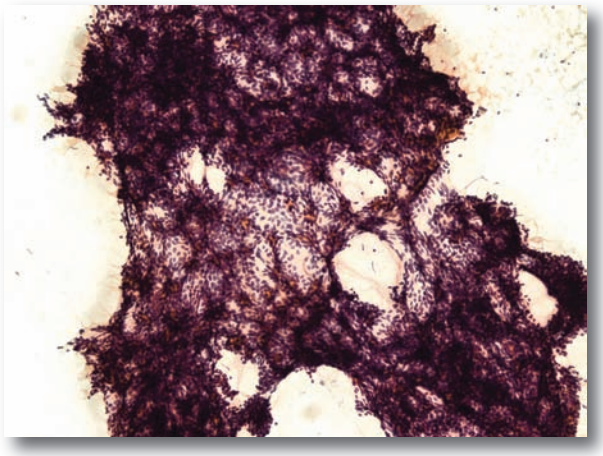

Figure 1.

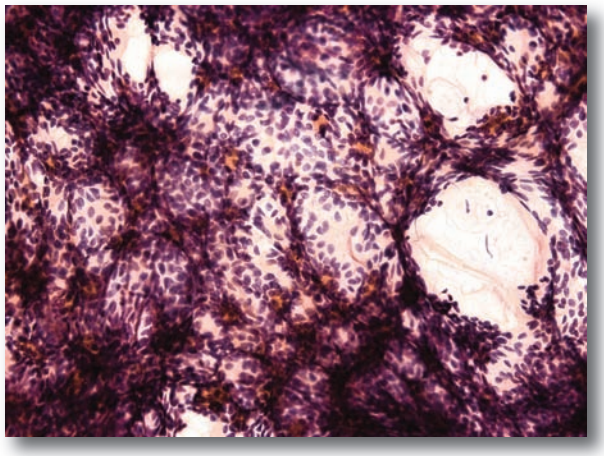

Figure 2.

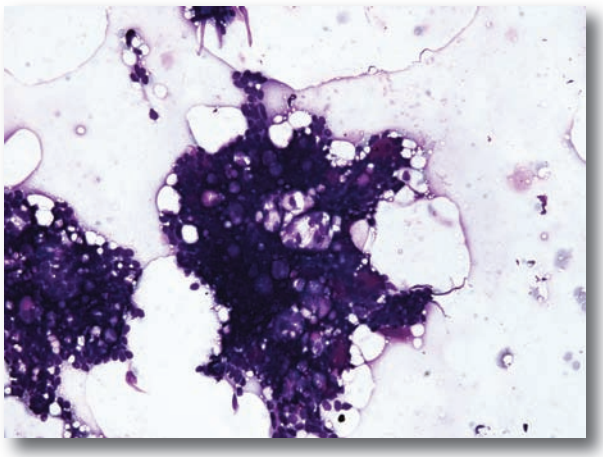

Figure 3.

Answer on page 18

BAC Annual Scientific Meeting & Trade Exhibition 2012

Alison Cropper
Chair, Meetings subcommittee

The British Association for Cytopathology (BAC) will be holding its inaugural Annual Scientific Meeting on Friday 14th and Saturday 15th September 2012 and we are pleased to be returning to the excellent facilities at Keele University near Newcastle-under-Lyme in Staffordshire. Additional microscopy workshops will be held in the adjacent Keele Medical School on the afternoon of Thursday 13th.

On-site accommodation will be provided in newly refurbished halls of residence. Delegates will also have the option of booking local hotels, a list of which will be provided by the ever-helpful Keele Conference Management team.

The conference is suitable for pathologists, biomedical scientists and cytology screeners at any level of experience and covers both gynaecological and diagnostic cytology — the scientific programme has been designed to provide a balanced mix of both.

Non-gynaecological cytology presentations already confirmed from invited speakers include:

- Synovial fluids — Professor Anthony Freemont, Manchester
- Biliary tract — Dr Amy Clayton, Mayo Clinic, USA
- Quality assurance in non-gynaecological cytology — Dr Sally Hales, Chester
- Andrology — Dr Allan Pacey, Sheffield
- Invisible Risk — Professor Brian Toft, Coventry

Confirmed presentations in gynaecological cytology include:

- Primary screening by HPV — Dr Karin Denton, Bristol
- Colposcopy view of HPV primary screening — Mr John Tidy, Sheffield
- The advantages and limitations of HPV testing — Dr Marshall Austin, Pittsburgh, USA
- Utilising the skills of Cytoscreeners — Dr Amy Clayton, Mayo Clinic, USA
- New ABC 3 guidelines — Dr John Smith, Sheffield
- Cytology of Type 2 cervical carcinomas — Dr Marshall Austin, Pittsburgh

There will also be a symposium and panel discussion about the future of cytology and cytologists, which should elicit interesting debate, with a panel including Professor Sue Hill, Dr John Smith and Mr Behdad Shambayati amongst others.

Microscopy workshops in cervical cytology (to be held on the Thursday afternoon before the main meeting) will comprise both ThinPrep and SurePath LBC. The non-gynaecological cytology workshop will feature both respiratory and fluid samples, presented in a mock-MDT style.

Running alongside the scientific programme will be a trade exhibition, and we are extremely grateful as always to our sponsors, whose invaluable support makes our annual conference possible.

Social events will commence with the official opening of the trade exhibition, buffet and themed disco (pink in support of Jo's cervical cancer trust) on Thursday night. The more formal Conference Dinner in Keele Hall will follow this on the Friday night, with after dinner entertainment from the brilliant Drew McAdam, "Scotland's foremost mind reader", providing a challenging yet entertaining experience for participants and spectators alike!

The full programme and registration details are available on the BAC website at http://www.britishcytology.org.uk and by the time this edition of SCAN is published the on-line booking system will be open.

The deadline for receiving abstracts for posters and proffered papers is 30th June 2012. Please visit the website for details on how to submit these. Prizes will be awarded for the best poster and oral paper.

We hope that you will find the programme informative, stimulating and enjoyable. The BAC executive looks forward to seeing you all at Keele in September!

Can a cup of Rosie Lee help prevent cervical cancer?

Andrew Evered
Principal Lecturer in Biomedical Science
Cardiff Metropolitan University

Background

Tea is one of the most popular beverages in the world today. Not only does it taste great but also there is strong evidence from *in vitro* and animal studies to suggest that the polyphenols contained within it may help in the prevention of chronic diseases such as cardiovascular disease and cancer. [1,2,] Epidemiological and clinical evidence supporting tea's health benefits is lacking however. [3]

All tea is produced from the leaves of the *Camellia sinensis* plant, and the main types are white, green, oolong and black, differentiated by their degree of fermentation. White tea is manufactured only from the buds or first leaves, which are plucked from the plant and dried with minimal processing. Green tea is produced by permitting a certain degree of leaf fermentation, which is then halted by steaming the leaves. For black tea the leaves are allowed to fully ferment and for oolong tea the fermentation is stopped somewhere between the standards for green and black tea.

One particular group of compounds found in tea with promising health benefits are the theaflavins, antioxidant polyphenols formed during the oxidation of black tea leaves. Several studies have shown that these compounds can strongly inhibit the growth of tumour cells in culture and in animal models.[4,5,6]

The effect of tea theaflavins on cervical cancer cell lines

Because of the practical, financial and ethical implications of conducting experiments on human beings, much research in cancer prevention and treatment is conducted on cultured cell lines, at least in the initial stages. The most famous experimental cervical cancer cell line is HeLa, isolated from a cervical cancer patient (Henrietta Lacks) in 1951. These cells are HPV18 positive and require careful handling in containment level 2 facilities. When HeLa cells are treated with theaflavins, cell proliferation is inhibited. [7] Although such experiments provide tantalizing evidence of the possible anti-cancer effects of tea we should remember that cancer is a complex disease and extrapolating results from laboratory experiments to real life is fraught with difficulties.

Further research at Cardiff Metropolitan University

With the help of two enthusiastic biomedical science students, I am currently exploring the anti-proliferative effects of black tea components on the HT3 cervical cancer cell line. Unlike HeLa cells, which are derived from cervical adenocarcinoma, HT3 cells were isolated from a cervical squamous cell carcinoma and do not contain detectable HPV. Not only does this render them safe to handle but these characteristics will also help us to elucidate the molecular mechanisms by which tea might exert its effect. They are the most malignant-looking cells I have ever seen (figure1 and front cover)! We are presently conducting assays to determine the minimum concentration of theaflavins that will induce apoptosis (a type of cell death) in these cancer cells whilst simultaneously monitoring changes in cell morphology using the good old-fashioned Papanicolaou stain.

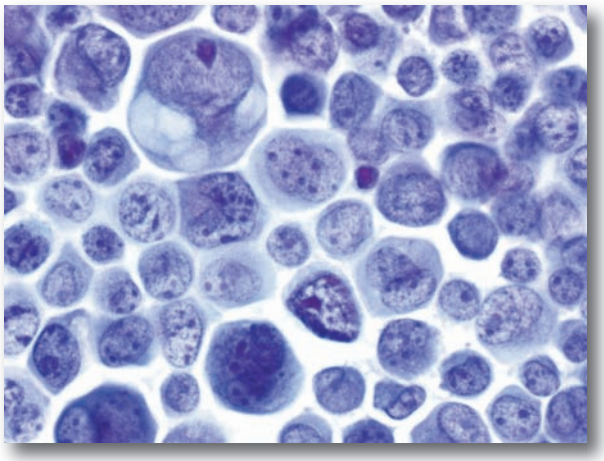

Figure 1. Papanicolaou-stained HT3 cells. Original magnification x400

How is apoptosis measured?

There are several biochemical and molecular methods of monitoring cultured cells for signs of cytotoxicity and death. We intend to use the MTT and caspase assays (see box) but because of my background in cytology we will also visually examine the cells and monitor their morphological changes using image analysis. A good correlation between the biochemical and morphological changes will permit the replacement of these expensive biochemical assays with the cheap and cheerful Pap stain for future experiments.

MTT assay

MTT stands for 3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide. You really wanted to know that didn't you! MTT is a yellow dye that turns purple in the presence of living cells. When added to a cell culture, the proportion of viable cells is indicated by the intensity of purple colour that develops, which is easily measured using a spectrophotometer. If tea theaflavins have any appreciable cytotoxic effect we would expect a dose-dependent reduction in purple intensity after the addition of theaflavins to our HT3 cells.

Caspase assay

Caspases are enzymes that are activated during apoptosis. Our experiments involve the addition of a fluorogenic caspase substrate to the theaflavin-exposed HT3 cells. Cells undergoing apoptosis will cleave the substrate to release a fluorochrome. The amount of fluorescence released is directly proportional to the proportion of cells undergoing apoptosis.

Image analysis

The evaluation of morphological changes in HT3 cells is the most challenging aspect of our research. Cytologists know only too well that visually assessing cells is a difficult and subjective task, but as scientists we must strive to improve the consistency and objectivity of our work. Image analysis is an ideal tool for extracting useful information from digitised images of cells. Although its implementation in clinical cytology is yet to be tested on a large scale, it is starting to yield promising results in our experiments.

Conclusions

We have only just scratched the surface in our investigations of the effect of tea consumption in the prevention of cervical cancer. Even if we are able to demonstrate a cytotoxic effect of theaflavins on cultured cervical cancer cells, this will not necessarily translate into a meaningful clinical effect. Tea is a complex mix of chemicals — are theaflavins the right components to target? If so, what is their bioavailability after drinking a cuppa? What is the effect of adding boiling water (and milk and sugar for that matter!) on the biological activity of these promising compounds? Do the various types of tea behave in different ways? How many cups a day would we need to drink for a beneficial effect? Continued high quality biomedical science research should help us to answer some of these fascinating questions.

References:

1 Stangl V, Lorenz M, Stangl K. The role of tea and tea flavonoids in cardiovascular health. *Molecular Nutrition and Food Research*. 2006; **50**(2): p. 218–228.

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4 Steele VE, Kelloff GJ, Balentine D, Boone CW, Mehta R, Bagheri D, *et al.* Comparative chemopreventive mechanisms of green tea, black tea and selected polyphenol extracts measured by *in vitro* bioassays. *Carcinogenesis.* 2000; **21**(1): p. 63–67.

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6 Klein RD, Fischer SM. Black tea polyphenols inhibit IGF-I-induced signaling through Akt in normal prostate epithelial cells and Du145 prostate carcinoma cells. *Carcinogenesis.* 2002; **23**(1): p. 217–221.

7 Chakrabarty S, Das A, Bhattacharya A, Chakrabarti G. Theaflavins Depolymerize Microtubule Network through Tubulin Binding and Cause Apoptosis of Cervical Carcinoma HeLa Cells. *Journal of Agricultural and Food Chemistry.* 2011; **59:** p. 2040–2048.

Answer to Quick Quiz on page 15

The cellular aspirate contained sheets of cohesive epithelial cells showing mild nuclear atypia. Many of the sheets contained well-defined small hyaline globules staining orange with Papanicolaou stain and bright magenta with May-Grunwald Giemsa. Myoepithelial cells were not a feature. The aspirate was reported as "suspicious but probably benign" (C3), ?adenoid cystic carcinoma, ?spherulosis,. Subsequent core biopsy and excision confirmed an adenoid cystic carcinoma (figure 4).

Adenoid cystic carcinomas are malignancies of low aggressive potential, histologically and cytologically similar to the salivary gland counterpart. The cytologist needs to be aware of its existence. Hyaline globules can also be associated with the benign breast disease, collagenous spherulosis.

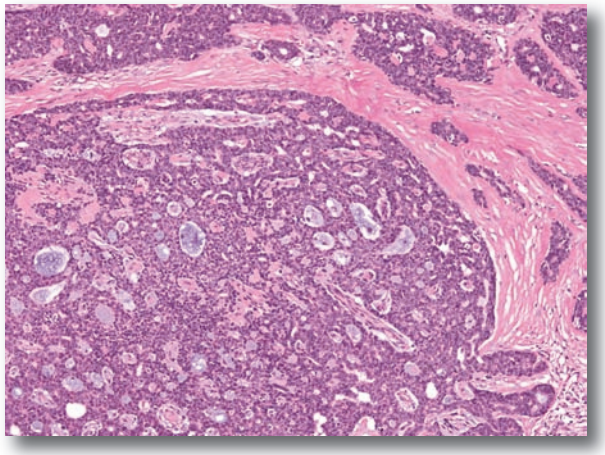

Figure 4.

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**PLEASE NOTE THAT NO FEE IS APPLICABLE FOR NHS STAFF BASED IN THE SOUTH WEST REGION*

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Edinburgh Royal Infirmary
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3rd 4th 5th September 2012 (for medical staff)
26th – 27th November 2012 (in Glasgow)
6th – 7th December 2012 (in Glasgow)
7th - 8th February 2013
£100 per day

Hosting Exam

Examination to be held in Edinburgh
23rd 24th October 2012
Applications to Examination Office, Liverpool.

Pre-Exam Course

Jan 2012 – for Feb tbc
19th – 21st Sep 2012 (for Oct Exam)
Sept 2012 (for Medics) tbc
£250

Mandatory Course for Advanced Specialist Diploma in Cervical Cytology

19th – 21st March 2012
£250

Non-Gynae Workshops

2nd May 2012
6th November 2012
£100

Trainee Colposcopists

15th-16th March 2012
£200

Non-NHS Labs – price on application
All courses are in Liquid Based Cytology(Thin Prep)
Courses are CPD accredited

Birmingham Women's NHS
NHS Foundation Trust

BIRMINGHAM CYTOLOGY TRAINING CENTRE

All BCTC courses are provided in SurePath and/or ThinPrep LBC

INTRODUCTORY COURSES FOR CITY & GUILDS DIPLOMA IN CERVICAL CYTOLOGY

24 Sep-5 Oct & 15-26 Oct 2012

This course provides students with a theoretical and practical introduction to cervical cytology.
A five-day Follow-on Course is offered free of charge to all those attending our Introductory Course.

FOLLOW-ON COURSES FOR CITY & GUILDS DIPLOMA IN CERVICAL CYTOLOGY

12-16 March 2012; 5-9 November 2012

The aims of this course are to revise the topics taught on the Introductory Course, consolidate skills and identify problem areas.

PRE-CITY & GUILDS EXAM COURSES

14-15 May 2012; 10-11 September 2012

A two-day course for those preparing to take the City and Guilds Diploma in Cervical Cytology.

UPDATE COURSES IN GYNAECOLOGICAL CYTOLOGY

21 March 2012; 27 June 2012; 29 November 2012 (Thin Prep & Sure Path)

Topics include: Endometrial Cells & Atrophic Changes in LBC, HCCGs, invasive SCC

NON-GYNAECOLOGICAL CYTOLOGY FOR TECHNCIAL STAFF

19-20 April 2012

This course is intended for those completing the IBMS specialist portfolio

DIAGNOSTIC (NON-GYNAECOLOGICAL) CYTOLOGY MASTER CLASS

SALIVARY GLAND, HEAD & NECK CYTOLOGY, DR M MOONIM

23 March 2012

For Consultant Pathologists and Experienced Technical Staff

BIRMINGHAM HISTOPATHOLOGY COURSE

11-22nd June 2012

The programme provides topic based lectures on systemic pathology, slide review of selected cases followed by discussion and a revision session for the FRCPath Part 2 exam

GYNAECOLOGICAL CYTOLOGY FOR TRAINEE PATHOLOGISTS (StRS)

3-4 September 2012

The programme for this course is a combination of lectures workshops and multiheader sessions.
This course is particularly suitable as revision for the FRCPath Part 2 exam.

NON-GYNAECOLOGICAL CYTOLOGY FOR TRAINEE PATHOLOGISTS (StRS)

13-15 February 2012; 5-7 September 2012

The programme for this course is comprehensive and includes the salient aspects of diagnostic non-gynaecological cytology.
This course is particularly suitable as revision for the FRCPath Part 2 exam.

INTRODUCTORY COURSE FOR ST1s

3-7 December 2012

Gynaecological and Non-Gynaecological Cytology including Autopsy element

LBC Conversion Courses, Ad hoc workshops and Off Site workshops can be arranged on request—please contact BCTC

For further details /reservations please contact Amanda Lugg
Birmingham Cytology Training Centre
Birmingham Women's Hospital
Edgbaston
Birmingham B15 2TG
Phone: 0121 627 2721
Fax: 0121 627 2624
Email: Amanda.Lugg@bwhct.nhs.uk
Website: http://www.bwhct.nhs.uk/professionals/ctc-training-centre.htm

CEC CPD IBMS RCPath accredited courses

East Pennine Cytology Training Centre

EPCTC NHS

Overall Winner 2010

Achieving Excellence in Learning, Teaching & Development

Training Centre Manager:

Mr N Dudding
0114 2712538
Nick.dudding@sth.nhs.uk

Administration:

Mrs K Hawke
0113 246 6330
Kathryn.hawke@nhs.net

Business Management:

Ms Z Marshall
0113 246 6331
zoe.marshall@nhs.net

Website: www.cytologytraining.co.uk

One-Day Update Courses in ThinPrep® Cytology

Venue: Westbrook House, Newmarket

Aspects of ?Invasive Cytology and Histology

This course is dedicated to both the cytology and histology of squamous cell carcinoma of the cervix and CIN3

28th June 2012

Aspects of Difficult Dyskaryosis for Experienced Staff

A one-day course aimed primarily at senior or experienced Screeners / BMSs.

25th September 2012

Borderline High-Grade Lesions and the use of HPV Triage and Test of Cure

This one day course covers the difficult area of borderline changes.

29th November 2012

Course Fee: * £120each

Speakers include: Dr J H F Smith, Mr N Dudding, Ms C Geary, Mr M Howard and Mrs V Frew

Update Courses in Non-Gynae Cytology

A series of three one day courses ideal for anyone intending sit the IBMS diploma, but also suitable for anyone seeking an update in non-gynae cytology.

Day four includes a full mock exam

24th – 27th April 2012
Course Fee*: £230 / £345

One-Day Non-Gynaecological Cytology Courses

Aimed at anyone undertaking their Specialist Portfolio, but also suitable for anyone requiring an introduction to non-gynae cytology. These courses will cover specimen preparation, urine, respiratory and effusion cytology.

18th & 19th September 2012
Course Fee*: £95 per day

Basic Cell Biology, the Role of HPV and How to Detect it

A one day course that aims to give primary screening staff, MLAs and anyone involved in HPV testing an overview of basic cell biology, the role that HPV plays and the different techniques used to detect it.

1st May 2012

Course Fee: * £90

****Participants from the North East, Yorkshire and Trent Regions will incur £15 administration fee only on all courses above except those marked * where full fee applies. All prices are subject to change. Further information and application forms are available from our Administration Team.***

East Pennine Cytology Training Centre

EPCTC NHS

Overall Winner 2010

Achieving Excellence in Learning, Teaching & Development

Training Centre Manager:

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zoe.marshall@nhs.net

Website: www.cytologytraining.co.uk

One-Day Update Courses in Cervical Cytology for Consultant Medical Staff

These one-day courses are ideal for and limited to Consultant Medical Staff

"Borderline High-Grade lesions and the use of HPV Triage and Test of Cure"
3rd July 2012

"Pitfalls and problems in Cervical Cytology - Squamous Lesions"
4th July 2012
Course Fee: * £90 each

Three-Day Update Course for AP/Consultant BMSs

A three-day course ideal for and limited to Advanced Practitioners/Consultant BMSs.
The course includes lectures on the histopathology of the cervix and endometrium, the management and treatment of women and the role of molecular markers, automated screening, HPV testing and vaccination. In addition there will be the opportunity to discuss real MDT cases and an opportunity to bring along cases of your own.

20th – 22nd November 2012
Course Fee* : £230

One-Day Masterclass

Challenging masterclasss aimed at practicing consultants or trainees wishing to refresh or extend their knowledge.

"Challenges and Pitfalls of EUS-FNA"
15th October 2012

Course Fee: * £90 each

Introductory Course for the City & Guilds Diploma in Gynaecological Cytology

This four-week course is designed especially for both BMS grades and Cytology Screeners who are studying for the City and Guilds Diploma in Cervical Cytology

This course can be arranged upon request

Bespoke Training Opportunities

We are happy to accommodate and deliver bespoke training tailored to your requirements i.e. conversion training, return to work/poor performance assessment and re-training.
Please contact the training centre to discuss you needs.

****Participants from the North East, Yorkshire and Trent Regions will incur £15 administration fee only on all courses above except those marked * where full fee applies. All prices are subject to change. Further information and application forms are available from our Administration Team.***

Director: Dr J H F Smith BSc MBBS FRCPath MIAC

Central Manchester University Hospitals NHS
NHS Foundation Trust

Directorate of Laboratory Medicine

THE MANCHESTER CYTOLOGY TRAINING CENTRE COURSES 2012

Pre-Examination Course For The C&G Diploma In Cervical Cytology

9th – 11th January 2012 £250

2nd – 4th May 2012

10th – 12th September 2012

LBC Update Course In Gynae. Cytology For BMSs/Cytoscreeners (Surepath)

22nd – 24th February 2012 £350

£100 per day

23rd April 2012
19th June 2012
25th June 2012
3rd July 2012
1st October 2012
14th November 2012
10th December 2012

One Day Master Classes – Non Gynae. Topics (Consultants only)

£100 per day

20th April 2012 – Thyroid (PLEASE NOTE CHANGE OF DATE)
10th May 2012 – Serous Fluids
24th May 2012 – Respiratory
27th June 2012- Urinary Tract

Non Gynae Beginners Guides (BMS/Screeners)

£100 per day

16th April 2012 – Respiratory

26th April 2012 – FNA Cytology

16th October 2012 – Urinary Tract

27th November 2012– Serous Fluids

One Day Master Classes – Gynae. Topics

31st January 2012 – Non Cervical Glandular Neoplasia

LBC Update Course In Gynae. Cytology For Medics & AP/Consultant BMS (Surepath)

12th June 2012 £100

FRCPath COURSE NON- GYNAECOLOGICAL CYTOLOGY

13th – 17th February 2012 £500
3rd – 7th September 2012

Pre Exam Course for the Advanced Specialist Diploma in Cervical Cytopathology

Date To be Confirmed £250

Endoscopic Ultrasound (EUS) – Guided FNA of Pancreas, Stomach and Oesophagus: A Journey into the Unknown with Light at the End of the Tunnel

Dr D N Rana, Dr S A Thiryayi,
Dr J Puleston (Consultant Gastroenterologist)

26 March 2012 £150

Introductory Course In Gynaecological Cytology For BMSs/Cytoscreeners

16th – 27th July & 6th – 17th August 2012 £1000

FRCPath Pre – Exam course

5th – 8th March 2012 £400
17th – 20th September 2012

Mandatory Courses Are Free Of Charge To North West Region Technical Staff.

Please Note That All Gynae Courses Are Based On Surepath Morphology

A 20% Discount Is Available For All Fee Paying Courses For NW Regional Staff

For information, please contact:
Administrator: Miss Jen Bradburn
0161 276 8804
Email: jennifer.bradburn@cmft.nhs.uk

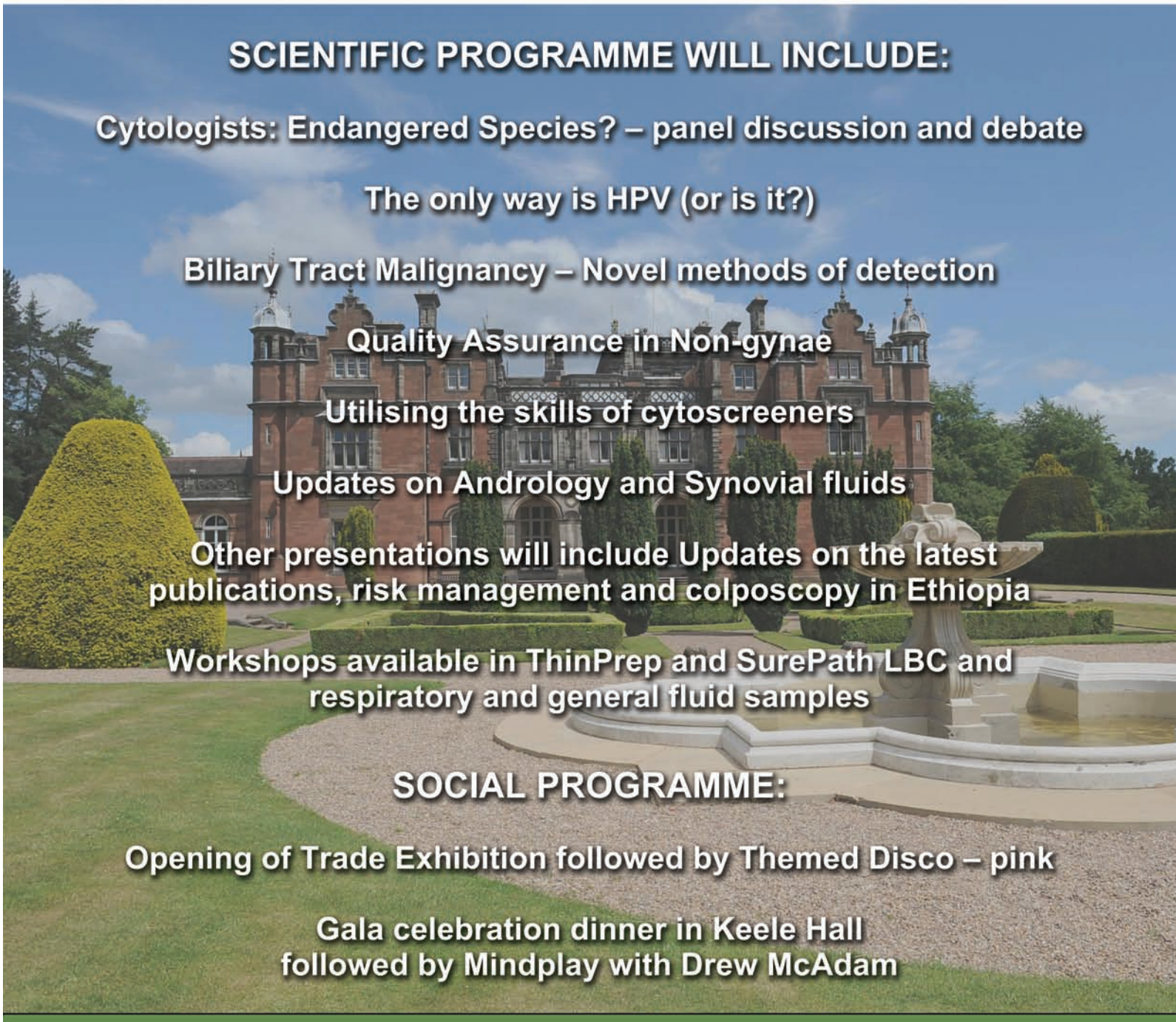
Director
Dr Mina Desai CBE
Consultant Cytopathologist/Director
Email: mina.desai@cmft.nhs.uk

Manager:
Mrs Jenny Davies
Tel: 0161 276 5114
Email: jenny.davies@cmft.nhs.uk

BAC British Association for Cytopathology

British Association for Cytopathology Scientific Conference and Trade Exhibition

Keele University, Thursday 13th – Saturday 15th September 2012



SCIENTIFIC PROGRAMME WILL INCLUDE:

Cytologists: Endangered Species? – panel discussion and debate

The only way is HPV (or is it?)

Biliary Tract Malignancy – Novel methods of detection

Quality Assurance in Non-gynae

Utilising the skills of cytoscreeners

Updates on Andrology and Synovial fluids

Other presentations will include Updates on the latest publications, risk management and colposcopy in Ethiopia

Workshops available in ThinPrep and SurePath LBC and respiratory and general fluid samples

SOCIAL PROGRAMME:

Opening of Trade Exhibition followed by Themed Disco – pink

Gala celebration dinner in Keele Hall
followed by Mindplay with Drew McAdam

FOR FURTHER DETAILS PLEASE SEE THE FULL CONFERENCE PROGRAMME AND BOOKING INFORMATION ON OUR WEBSITE:

www.britishcytology.org.uk

SCAN
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BAC British Association for Cytopathology

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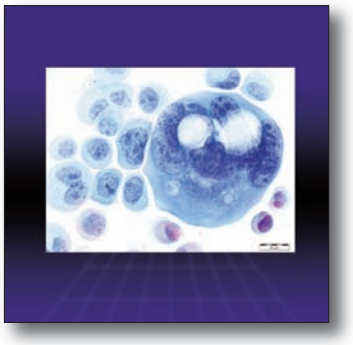
new website now available: www.britishcytology.org.uk



Cover Image: cultured HT3 cervical cancer cells