THE SOCIETY FOR VASCULAR TECHNOLOGY OF GREAT BRITAIN AND IRELAND

NEWSLETTER Issue 97 Summer 2017

In this issue

Welcome to the summer issue of the SVT Newsletter

This issue we are introducing a new segment called 'Ask our president' where you can write in directly to our committee and ask our president any burning issues you may have to newsletter@svtgbi.org.uk

I would like to say thank you to Matt Slater for sending in a review on 'Association between metformin prescription and growth rates of abdominal aortic aneurysm which makes an interesting read, and thank you to Anna Jerram for her interesting article of her experience working in Gambia this year.

Please email any case studies, reviews, your experiences or any comments that you think would be of interest to members of the society, contributions may also be eligible for CPD points. We would also welcome any comments on articles published in this edition.

If you have any interesting links to an article or video you think other members may be interested in then please get in touch.

As always a £25 prize is offered to the individual chosen for sending in the article or letter of the month.

Gurdeep Jandu
Newsletter Editor
newsletter@svtgbi.org.uk

DATES FOR THE DIARY 2017

Vascular Societies ASM, Manchester, UK
22nd-24th November
Link

European Society of vascular Surgery 2017
19th-22nd September,
Lyon France
Link

BMUS Ultrasound 2017, Cheltenham Racecourse, UK
6th-8th December
Link

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Newsletter Editor: Gurdeep Jandu • **Web Site Manager/ Job Adverts:** Lee Smith • **SVT Website:** www.svtgbi.org.uk

Special Mention

We are sad to announce that Tracey Gall has stepped down from her past president role on the executive committee but delighted to say she is moving on to advance her ultrasound career with MIS as an applications specialist.

Tracey has made a huge contribution to the Society both on the education and executive committees. The implementation of the new website which she instigated will have a positive impact on the running of the Society for years to come and Tracey has also worked hard to bring the new electronic exam format together over the last few years.

We would like to take this opportunity to wish her well for the future and thank her for all her hard work. We will all miss her on the exec both professionally and personally.

Helen Dixon
SVTGBI President

Current president Helen Dixon awarding the past presdent award to Tracey Gall on her last day with the SVTGBI Committie.

Association between metformin prescription and growth rates of abdominal aortic aneurysms

Golledge , J. Moxon, K. Pinchbeck, J. Anderson, G. Rowbotham, S. Jenkins, J. Bourke, M. Bourke, B. Dear, A. Buckenham, T. Jones , R. and Norman, P.E. (2017) British Journal of Surgery (epub ahead of print).

Introduction
Owing to the introduction of screening programmes in the UK, Europe and North America and the high rates of abdominal imaging in the developed world many AAAs are now detected when they are small and asymptomatic. Current guidelines recommend regular imaging surveillance of small AAAs, but up to 70% ultimately grow to a size at which surgical repair is indicated. There are currently no medical therapies that inhibit the growth of small AAAs.

Studies in a variety of Populations have reported a strong negative association between Diabetes and AAA prevalence, growth and rupture. This has led to suggestions that diabetic drugs may have effects that could influence AAA growth. Metformin is the most commonly prescribed drug for diabetes and had been shown to inhibit AAA development in two separate mouse model studies. It has has been reported to inhibit multiple mechanisms implicated in AAA including aortic inflammation, extracellular matrix remodelling and oxidative stress.

Despite these promising findings, the apparent benefit for diabetes medications to reduce AAA growth has not been investigated in large patient cohorts. The aim of this study was to assess the association of diabetic treatments with AAA growth in a large group of patients across three separate cohorts.

Methods
This was a retrospective study and patients were divided into three groups based on different imaging protocols.

Cohort 1: Individuals recruited from Surveillance programmes from five centres in Australia and New Zealand. Patients were followed up by ultrasound (Maximum outer to outer AP and transverse, measured by experienced sonographers) in Vascular Laboratories.

Cohort 2: Individuals where CT was used for surveillance (Maximum orthogonal AP and TV infrarenal aortic diameter, outer to outer) from 4 centres. Reasons for CT as opposed to ultrasound imaging included physician preference, poor visualisation of the AAA on US, simultaneous PVD, rapid AAA growth on US, unusual AAA morphology and AAA under consideration of repair.

Cohort 3: A separate group of patients recruited between 2009 and 2015 who had CT scans 12 months apart in which detailed assessment of AAA growth including calculation of the AAA volume was performed. Maximum orthogonal

Results
Cohort 1: 1357 patients with a mean(s.d.) initial aortic diameter of 36.9(6.3)mm were followed, with a mean of

4.9(2.8) scans for a mean of 3.6(2.4) years. 217 patients had diabetes, and they were more likely to have growth below the median. Mean annual AAA growth rate was significantly slower (P =0.012) in the 118 patients with diabetes who were prescribed metformin (1.03(2.68) mm), but not in the 99 patients with diabetes not prescribed metformin (1.60(2.94) mm; P =0.217), compared to 1140 patients who neither had diabetes nor were receiving metformin (1.62(2.45)mm).

Cohort 2: In cohort 2, 287 patients with a mean(s.d.) initial aortic diameter of 40.9(7.3)mm were followed with a mean of 2.9(1.3) scans for a mean of 2.9(2.6) years. Some 69 patients (24.0 percent) had diabetes, and they were more likely to have AAA growth less than median. Mean annual AAA growth was significantly slower (P =0.004) in the 39 patients with diabetes who were prescribed metformin (1.40(2.99) mm), but not in the 30 patients with diabetes not prescribed metformin (2.18(2.96) mm; P =0.514), than in the 218 patients who neither had diabetes nor were receiving metformin(2.55(3.04) mm). Patients prescribed metformin were more likely to have AAA growth less than the median before and after adjusting for other risk. Other diabetic treatments examined were not significantly associated with AAA growth.

Cohort 3: In cohort 3, all 53 patients underwent repeat CT after 12 months. A total of 19 patients (36 per cent) had diabetes, and they were more likely to have AAA growth below the median. Mean(s.d.) annual AAA growth was significantly slower (P =0.018) in the 16 patients with diabetes who were prescribed metformin (0.37(1.28) mm), but not in the three patients with diabetes not prescribed metformin (0.95(1.18) mm; P =0.693), than in the 34 patients who neither had diabetes nor were receiving metformin (1.46(1.52) mm). Patients prescribed metformin were more likely to have AAA growth less than the median before and after adjusting for other risk factors.

Discussion

The main finding from this study is that metformin prescription was consistently associated with reduced AAA growth in three cohorts of approximately 1700 patients undergoing surveillance with different imaging protocols. Although it was not possible to assess this association independently of diabetes, the lack of association between reduced AAA growth and other diabetic medications raises the possibility that metformin, rather than diabetes itself, explains the association. In addition, metformin was the most common diabetic treatment used in all three cohorts. Human association studies are always associated with selection bias and it remains uncertain whether the association of metformin with reduced AAA growth reported just reflects that this was the most commonly prescribed medication for diabetes, or whether this is a direct effect of metformin reducing AAA growth.

Despite the large size of the present study, the number of patients with diabetes was small. This limited the ability to compare AAA growth rates in diabetic patients alone who were receiving different treatments. Moreover, drug history was only taken once and compliance was not recorded.

Matthew Slater
Addenbrookes hospital, Cambridge.

Ida Bass Kidney Foundation (IBKF) charity

PRIZE ARTICLE

Gambia Experience May 2017

Anna Jerram, Clinical Vascular Scientist, Manchester Royal Infirmary

In March, I was invited by Consultant Renal Transplant surgeon, Mr Afshin Tavakoli, to accompany him and a team of two others on a trip to The Gambia. He had heard about the work of the Ida Bass Kidney Foundation (IBKF) charity through a colleague, and that the founder of the charity, Sailey Fladsrud, was looking for a surgeon who would be willing to perform Vascular Access (fistula) surgery there.

The current provision of haemodialysis services in The Gambia is extremely limited; Sailey and her family learned this first hand after their mother sadly passed away only 11 months after receiving her diagnosis of Chronic Kidney Failure. The IBKF was set up with the vision of improving these services, to give patients like Ida a better outlook. Through her hard work and dedication, Sailey and her team commissioned a 14-bed haemodialysis centre in 2015 at the Edward Francis Small Teaching Hospital in Gambia's capital Banjul, with dialysis machines donated by UK hospitals.

Most of the patients on the unit dialyse via temporary lines which are prone to infection. The alternative to dialysis via a catheter is for the patient to have an arteriovenous fistula created in their arm, through a surgical procedure. For those not familiar with the procedure, this involves the joining together of an artery and vein at a suitable site, to create a high volume reservoir of blood flow through which dialysis is achieved by the insertion of inflow and outflow needles. Infection rates are much lower using this method, as no indwelling catheter is required, and dialysis efficiency is improved.

So, the challenge put to Mr Tavakoli and his right-hand man, Renal Transplant surgeon Mr Omar Masood, was to

create Vascular Access fistulae in a group of patients at the centre, to give them better dialysis, and an improved quality of life.

I was honoured to be asked to join the team, as the Clinical Vascular Scientist who would perform the pre-operative duplex ultrasound venous and arterial mapping required to guide the surgeons in their decision making. My role also included post-operative duplex assessment of the fistulae which were created. I was able to accept this exciting invitation thanks to the kind donation of an M-Turbo portable ultrasound system by SonoSite, for the duration of the trip.

The fourth member of our team was Vascular Access Specialist Nurse, Sister Alayne Gagen, who had an integral role in post-operative care and planning for the patients. She also provided training and information for the nurses at the dialysis centre.

The fistula surgery performed during our stay had a 100% success rate. The patients who had the surgery were very grateful, as they would not have been able to afford to pay for the operation privately, currently the only option for them.

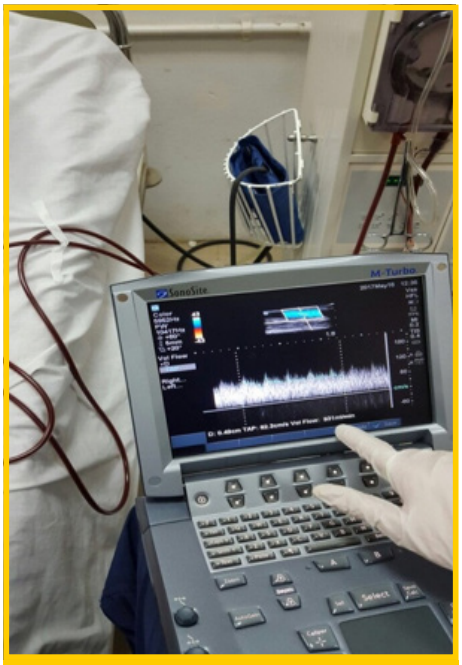
Our trip to the Gambia was well received by the doctors and surgeons at the hospital we visited. They had the opportunity to learn surgical techniques from Mr Tavakoli and Mr Masood, and the theory behind fistula ultrasound, vein mapping, creation and aftercare through lectures given by myself and the team.

All in all, our week in The Gambia was a wonderful and eye opening experience, including an unexpected appearance on the Gambian TV channel to talk about the project! We all hope to stay in touch with our new colleagues in the Gambia, with a possibility of a return visit in the future.

Please visit the Ida Bass Kidney Foundation website www.ibkf.org.uk for more information or to donate to the charity.

Our team at Manchester Royal Infirmary

Me, looking extremely serious, in the pre op vein mapping clinic at the Edward Francis Small Hospital, Banjul.



Scanning a fistula post -op at the dialysis centre, whilst the patient dialyses via their temporary line.

Mr Tavakoli and Mr Masood, teaching the Gambian surgeons how to make a fistula.

Our team with Sailey Fladsrud, IBKF founder (far left), and some of the surgeons and hospital directors.

SVT Research Committee update

As the Research Committee has been in existence for about a year, I thought I'd update everyone on the progress on a few things we have been up to.

SVT grants program
The SVT grants were re-launched at the 2016 AGM, with a total of £10,000 up for grabs! There was available a maximum of £4,000 per research grant and up to £250 per travel grant. The closing date was 5th May and I am delighted to say that we received 4 applications in total; 3 for the Research grant and 1 for the Travel grant. The applications were subject to two external reviews by SVT members and I would like to say thank you to those helping us out with that. The Research Committee also reviewed the applications and recommendations were then made and confirmation of the grants by the Exec Committee.

We are happy to announce that one research grant was awarded to Alex Webb, Junior Clinical Vascular Scientist from Bristol Royal Infirmary. She will carry out a feasibility study investigating the natural history of untreated calf DVTs. This project will inform a larger study to plug the knowledge gap highlighted by the recent NICE guidance, with respect to investigation and treatment of calf DVTs.

The other two research grant applications are yet to be finalised and the outcome will be reported at the AGM. Members in receipt of SVT research grants will be expected to submit an abstract to the AGM to report the results of the study, when completed.

The travel grant was awarded to STP trainee Danielle Joyce from Nottingham, who will travel to UCL to learn Flow-mediated dilatation (FMD) technique from Professor Deanfield's team. This technique is used to investigate endothelial dysfunction, an early marker of atherosclerotic changes. It will be used in her MSc project to compare the endothelial function of elite athletes compared to normal healthy controls, with a view to be used in further studies.

It is great that we had a number of applications and I would like to encourage members to start thinking about the next round of the grants, which are likely to be announced at the AGM. We would also like more uptake of the Travel grant, but welcome informal enquires to determine suitability of the proposed application. We are also currently reviewing the grant documentation and application process.

The Vascular Research Collaborative
The collaborative was set up in 2016 to: 1) lay the foundations of a national vascular research network and 2) develop a national strategy for vascular research to include a priority setting exercise. You will have received emails earlier in the year regarding the priority setting, asking for outstanding questions that exist in the vascular specialty. The response rates can be seen in the table.

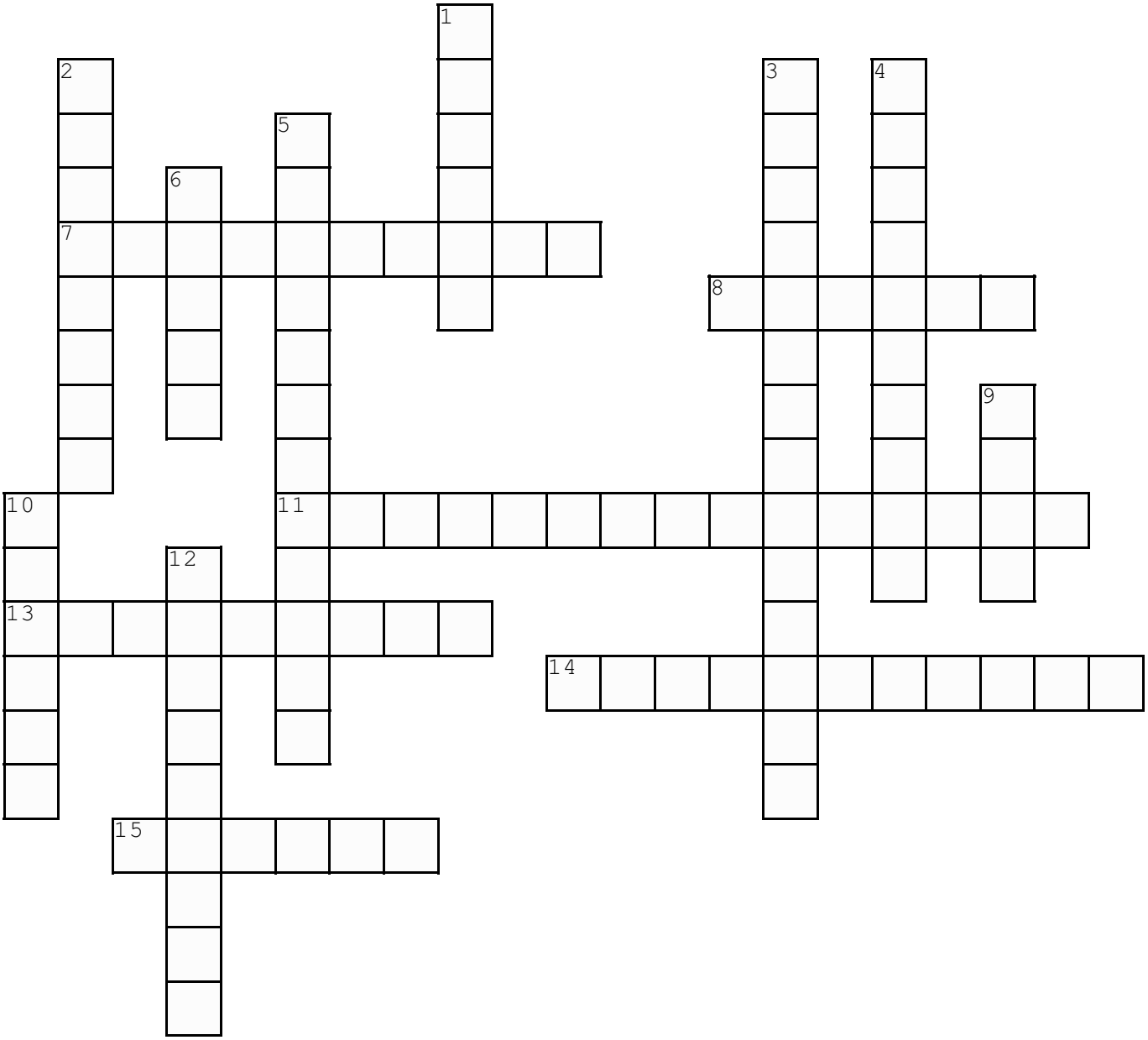
Online Survey (*likely crossover)			
Membership	**Survey Sent**	**Response**	**%**
Vascular Society*	690	212	31%
SVN	115	59	51%
SVT	479	114	24%
VERN*	170	5	3%
Rouleaux Club*	123	25	20%
Total	**1577**	**415**	**26%**

The survey produced over 1200 research suggestions/ questions, which are being grouped into broader categories (PVD, Aorta, Venous etc.), by Prof Chetter's team in Hull. I attended a collaborative meeting in York in May 2017 to discuss how to take the work forward and the next stage is to email out a list of research questions for prioritisation to VS, SVT, SVN members. Following a few rounds of prioritisation, Special Interest Groups for each category will be formed to develop a portfolio of studies, to advise funders and to develop collaborations. There will also work being carried out to undertake Patient-Public Involvement for vascular and discussion is ongoing with the James Lind Alliance about how to carry this out.

Please remember that the research pages of the SVT website are full of helpful advice and links to assist you in undertaking research. The Research Committee can be contacted by email: research@svtgbi.org.uk

Richard Simpson
SVT Research Committee – Chair

Vascular Crossword



Horizontal

7. Waves with frequencies higher than the upper audible limit of human
8. Deep veins with a increased number of valves
11. This bypass depends on healthy Axillary Arteries
13. Causes a localized tenderness
14. A minimal endovascular procedure to widen an narrowed or occluded vessel
15. Failure can cause retrograde flow

Vertical

1. Made up of Fats, Chloestoral and Calcium
2. Excessive swelling of an Artery
3. Surgical removal of the inner layer of the artery
4. Resulting from an ischemic limb if left untreated.
5. Cramping in the calves caused by exceration
6. A mesh inserted to keep the arterial passage open
9. Minimal invasion used for repairing of an aneurysmal Aorta
10. A surgical collateral
12. A communication between the deep and superficial system

SVT Trainee Questions

1. Describe venous reflux and how we identify this on a Duplex scan?
2. What causes venous reflux?
3. What are the symptoms of venous reflux?
4. What is the role of a perforator and what should the direction of flow be in a competent perforator?
5. Why do we also check the deep veins in a superficial venous scan?
6. Discuss the different treatment options available for venous insufficiency?

ASKTHEPRESIDENT

Do you have any burning issues you wish to raise with the committee? If so please write in to us and ask our SVT president?

Please email us on newsletter@svtgbi.org.uk and your questions could be published in the next newsletter.

STOP PRESS!

On Wednesday 22nd November the Study afternoon subject is **EVAR and use of u/s contrast agents.**

Expert talks, study notes to take home and hands on practical demonstrations.
Book early when registration begins in early September

The ASM on Thursday 23rd has a busy programme with lots of proffered papers, research proposals from trainees and some fascinating guest speakers. More details to follow soon.

Dom Foy, SVT Conference Secretary, dominic.foy@rbch.nhs.uk

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