FDUK toolbox – Managing foot infection in diabetes

This report is from the third Foot in Diabetes UK (FDUK) Masterclass on the Diabetic Foot that took place on 6 December 2007 at the City of Manchester Stadium, Manchester. The event was supported by unrestricted educational grants from Smith & Nephew and ConvaTec.

Introduction

Being able to manage all aspects of infection is vital, particularly among those who may have a weakened immune system – such as those with diabetes and neuropathy. The programme for the third Foot in Diabetes UK (FDUK) Masterclass on the Diabetic Foot concentrated on the management of foot infections in diabetes and provided multiple 'tools' for use by healthcare professionals involved in the care of people with diabetic foot problems. The conference included several sessions on the management of diabetic foot infections and three interactive workshops to provide attendees with tools to aid their clinical practice.

'A fascination, a tragedy and a dilemma' is how Mike Edmonds (Consultant Physician, London) described infection in the diabetic foot as he opened the conference.

Contaminated, colonised or infected?

There is no such thing as a clean wound, and a contaminated wound is not necessarily a bad thing as bacteria cause inflammation which stimulates white blood cell activity.

Rachel Mathison (Honorary Tissue Viability Podiatrist, Stockport) gave the first lecture of the conference and discussed the underlying comorbidities of wounds, the Wound Infection Continuum and the interaction between the host, the pathogen and the wound environment.

Foot infections: Signs and symptoms versus investigations

'Always challenge reports and always give enough information to the radiographer' Frank Webb (Consultant Podiatric Surgeon, Salford) began in his lecture looking at the different options available for investigation (X-ray, MRI, culture and sensitivity, ultrasound, blood tests) and whether or not the majority of investigations are done simply to avoid litigation rather than as a diagnostic tool.

The armoury of antibiosis

The diagnosis of infection is primarily clinical, emphasised William Jeffcoate (Consultant Endocrinologist, Nottingham), and should not be based on the use of swabs. Swabs will not distinguish between infection and bacterial colonisation of the wound surface. Infections that are newly occurring and limited in extent are usually caused by Gram positive cocci and it is reasonable to treat them empirically with agents such as flucloxacillin. However, the response to the treatment should be closely monitored and urgent expert advice should be sought if the infection does not settle quickly.

Osteomyelitis may complicate 20% of chronic wounds and should always be considered in wounds that fail to heal. It is currently believed that the majority of bone infections in the diabetic foot will settle with carefully chosen antibiotic therapy and that surgery is not usually needed. The evidence base

for the use of antibiotics in general remains thin, however, and much more research is needed.

Surgical management of diabetic foot infections

Cliff Shearman (Consultant Vascular Surgeon, Southampton) looked at the challenges of providing a cohesive service for people with diabetes and foot infections in order to to reduce the severity of amputations.

Many people with diabetes admitted to hospital are done so under the care of clinicians who do not have an interest or expertise in management of the diabetic foot. This delays treatment and prolongs hospital stay. Patients should ideally be admitted under one team that has the expertise to treat them. Protocols can be developed with microbiologists and other clinicians involved with the individual so that appropriate care can be commenced immediately.

How the wound will heal following surgery should be taken into account. If legs are swollen or oedematous they will not allow full healing of wounds further down the limb.

Promoting the diabetic foot as a surgical emergency should be a minimum standard of commissioners to provide adequate care for people with diabetes.

Workshops

The afternoon session comprised three interactive workshops aimed at providing the attendees with tools to take away to improve their clinical practice.

Case histories of foot infection

William Jeffcoate and Rachel Mathison ran a workshop based on clinical examples of infection and their overall message was to emphasise that the diagnosis of infection was primarily clinical. The main signs are those of localised inflammation and exudate, although these may be less obvious in people with peripheral arterial disease. The wound may smell and newly occurring local pain is suggestive. The place of surface swabs is limited – even though some three-quarters of those present admitted it was part of their routine practice. If samples are to be taken for microbiological analysis they should be limited to culture of pus or extruded bone, or samples taken by curettage or aspiration from the wound bed. Initial antibiotic choice is empirical but it should be adjusted on the basis of the identity and antibiotic sensitivity of the organisms isolated.

The diagnosis of osteomyelitis, and its differentiation from Charcot foot, presents particular problems. Bone biopsy is said to be the gold standard but it is not widely used and its use has never been validated.

The beautiful, not boring BNF

This workshop focussed on using the BNF correctly in order to avoid compounding problems by using safe working practice. Every year some 200 000 people are admitted to hospital due to interactions between prescribed drugs, at a cost of approximately £450 million to the NHS.

Justine Scanlon (Chief Pharmacist, Macclesfield) and Paul Chadwick (Principal Podiatrist, Salford) discussed why and how the BNF should be used by independent and supplementary prescribers to avoid drug interactions when prescribing antibiotics for foot infections and also the importance of writing clear and accurate prescriptions.

Following this was an interactive session in which cases were presented and the attendees used the BNF to distinguish the interactions between several of the treatments and give hands-on experience of using this tool.

The beginners guide to X-ray interpretation

'There is a shortage of radiology courses' began Frank Webb as he and Martin Fox (Clinical Lead Podiatrist, Tameside and Glossop PCT) opened their workshop on requesting X-rays, interpreting them and identifying infection from the film.

It is essential when requesting X-rays to give the radiology department relevant information as to why you want the X-ray. They should be informed of any medical conditions, the presenting problem, the rationale for the X-ray and what is expected, the specific area to be X-rayed (for example, ulcer on distal IP joint rather than sole of foot) and which views are needed.

Interpreting X-rays requires some practice but different views will enable better interpretation, and one should not be afraid of using the magnifying glass to closely examine the film.

Workshop feedback

The final session took a question and answer format based around the workshops. On the panel was Lee Hawksworth (Podiatrist and Planning and Commissioning Manager, Tameside and Glossop PCT) who explained that his role was to ensure that podiatrists (and other healthcare professionals) deliver the right care to the right people at the right time. Practice-based commissioning for the diabetic foot needs to have clear standards and will be led by podiatrists. ■