

## **A local governance framework for interventional cardiology centres**

Interventional cardiology services have undergone an enormous transformation in the last 20 years. The numbers of PCI procedures per year has increased substantially and the typical case mix has changed from a mostly elective service to the current day situation where most procedures are performed on patients presenting with acute coronary syndromes. Patients are now typically older and sicker with PPCI, cardiogenic shock, out of hospital cardiac arrest, surgical turn downs, left mainstem and CTO procedures being common clinical situations. This increased risk profile has coincided with an era of greater scrutiny of doctors.

We are all expected to provide data on our individual clinical service for appraisal purposes. In addition, we may be required to discuss difficult cases with patients and their relatives, local serious incident enquiries, the Care Quality Commission, Coroners courts, the General Medical Council and even the police. When dealing with these challenging situations it may be very helpful for clinicians to have up to date information describing an overview of their practice as a whole in order to put an individual case in context.

The NICOR database of PCI procedures is one of the best of its kind and provides an excellent overview of procedures in the UK. Patients who do not have procedures performed do not appear on this database but local departments are still accountable for these cases. The purpose of this current document is to describe a local governance framework which can be used by PCI centres on a voluntary basis. This is based on the system currently in use at the Essex Cardiothoracic Centre which works well and is popular with clinicians.

### **Individual mortality review**

This is probably the most important local process. It should be run at least monthly, attended by all the interventional team (medical, trainees and allied professionals) with the understanding that every inpatient death is discussed. This includes those who have not had a procedure as well as those who have undergone PCI. It is a good educational activity with the cases prepared and interventional trainees where possible.

A minimum dataset should be available for all cases. This will include the date and time of admission, the initial ECG, a brief history including significant past medical history, angiographic images, cardiac imaging, length of stay on ITU (if appropriate) and date of death.

It is essential that the discussion is minuted and clerical support for this does help formalise the meeting. At the end a consensus should be used to score the case as follows

*Good practice – a standard that you would expect for your institution*

*Learning points – aspects of clinical care that could have been better*

*Learning points – aspects of organisational care that could have been better*

*Learning points – both clinical and organisational care*

*Less than satisfactory – several aspects of clinical and / or organisational care were well below satisfactory*

The meeting should be conducted in a non-judgemental way and rotating the chairmanship may help with this. Our experience is that the vast majority of deaths are PPCI cases with out of hospital cardiac arrest and cardiogenic shock featuring commonly. In many of these cases the discussion is quite brief and uncontroversial (not all the angios/echos need to be reviewed for every case but they should be available). This meeting, and the formal way the cases are scored, has encouraged a degree of consistency when individual clinicians have to make difficult decisions involving downtimes, non-shockable rhythms, treatment withdrawal etc.

Appropriate time should be allocated for cases where death was unexpected including the small number involving elective admission. We review the documented cause of death and as a result the quality of our death certification and coding has significantly improved.

### **Review of mortality statistics**

In our centre we submit our NHS numbers to the Office of National Statistics and get monthly reports of issued death certificates. With this we are able to produce Kaplan-Meier survival curves for our cases. It is easy to generate 30 day mortality graphs and also look at longer term survival. What we typically find are miniscule mortality rates in elective patients, low mortality in ACS transfers and PPCI mortality largely driven by out of hospital arrest and cardiogenic shock.

We have found this information to be particularly helpful when dealing with outside bodies including the Care Quality Commission and coroners inquests. Our own survival data is produced primarily for clinical reasons but it can also be used for research purposes.

### **Morbidity review**

There may be unfavourable outcomes which may not result in death but are important quality indicators, particularly for patients admitted for elective PCI procedures. These include unplanned renal replacement therapy, unplanned admission to ITU, need for subsequent vascular intervention or confirmed stroke. A hospital stay of two or more nights may be considered an unfavourable outcome for patients admitted for elective PCI.

### **Peer review**

Each year at our centre the interventional cardiologists conduct a peer review exercise of a selection of cases. Interventionalists are paired up at random and a selection of cases (elective, urgent and emergency) are selected for assessment. The scoring criteria are objective and uncontroversial

Examples of scoring criteria

#### ***Elective cases***

*A referral letter outlining an appropriate indication for PCI*

*Documented antiplatelet therapy pre-procedure*

*Appropriately completed consent form*

*Documented renal function with appropriate action if abnormal*

*Appropriate angiographic documentation of case*

*Recognition and appropriate management of complications*

*Documentation of antiplatelet therapy post procedure*

*ECG performed post procedure (with appropriate management if abnormal)*

*Complete data entry and procedure report on TOMCAT*

*Discharge letter to GP*

**Emergency cases**

*Appropriate clinical assessment of PPCI patient on arrival*

*Presenting ECG: documentation of findings*

*Documentation of time of onset of symptoms*

*Involvement of ITU outreach team if appropriate*

*Documentation of antiplatelet and antithrombotic therapy*

*Complete data entry and procedure report on TOMCAT*

*Appropriate angiographic documentation of case*

*Recognition and appropriate management of complications*

*Documentation of contraindications if statins, beta blockers or ACE inhibitors omitted on discharge.*

*Discharge letter to referring hospital and GP*

The idea is to include criteria which encourage good practice and address areas where there may have been complaints / investigations in the past. We have used a score of 8 out of 10 criteria to denote satisfactory performance. Clinicians report that the subsequent certificate of peer review we issue is well regarded by appraisers.

**High risk database**

Many PCI cases have a predictable outcome and patients can be consented with similar risk profiles. There are other cases where the consent process needs to be more individualised and these cases can include surgical turn downs, left mainstem cases, chronic total occlusions, patients with poor LV function and cardiogenic shock. Centres should be encouraged to keep a prospective database of

such cases. This allows easy audit of this work and encourages clinicians to work collaboratively. Consultants doing cases together and the development of special interests is to be encouraged.

### **Summary**

In my view, there are many reasons for centres to adopt the formal governance framework described above. Once set up the process is quite easy to run and does provide an excellent training opportunity for juniors. Our experience is that these processes are popular with clinicians and provide documentary evidence of a well run department (and is very useful for appraisals etc). It can help standardise best practice when dealing with high risk emergency cases.

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4<sup>th</sup> Jan 2021