

MODERN-DAY MANAGEMENT OF ANGINA PECTORIS AGGRESSIVE VERSUS CONSERVATIVE THERAPY

So many options

When it comes to angina pectoris, there are so many treatment options that choosing one can be difficult. Bypass surgery has become a widespread technique. Percutaneous transluminal coronary angioplasty (PTCA) has also become extremely common and widely used. Medication is yet another option; however, while it is the least invasive therapy, even prescribing medications with evidence-based positive results is not the obvious choice. In the three major trials reviewed below, medical therapy versus revascularisation with bypass surgery versus PTCA were examined. Each technique showed effectiveness in different situations, but differed in terms of side effects.

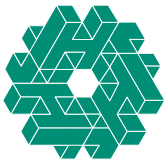
The Stent or Surgery (SOS) trial

In this trial, 988 patients with significant angina pectoris and multivessel coronary disease were randomised; 488 were treated by the percutaneous approach versus the remaining 500, who had surgical bypass surgery performed. There was a mean followup of two years. The mean age of the patients was 61, with the average ejection fraction being 57%. Only 15% of the population had diabetes and only 24% had acute ischemic syndromes (*i.e.*, the vast majority of patients had chronic, stable angina). Approximately 57% of patients had two-vessel coronary artery disease (CAD), while 43% had three-vessel involvement.¹

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PTCA was undertaken with 2.2 vessels being dilated and 2.9 stents attempted per patient. Seventy-eight per cent of lesions were stented and the average patient had 2.5 stents. In the surgical group, 2.8 grafts per patient were utilised, with 93% of patients having a left internal mammary anastomosis.¹

The primary end point of this trial was repeat revascularisation. Secondary end points were death, myocardial infarction (MI), and all-cause mortality. At two years, 4.1% of the patients randomised to PTCA passed away versus 1.2% in the surgical group. Death or MI occurred in 9.3% of patients randomised to PTCA versus 9.6% in the surgical group (*i.e.*, no significant difference). Repeat vascularisation was much more common in those undergoing PTCA—20% of patients versus 5.8% in the surgical group.¹ It is well established that PTCA only treats between 1% and 2% of the total coronary circulation, therefore, it is not surprising that in addition to restenosis, repeat procedures are also not uncommon.

For stroke treatment, the SOS trial showed no significant difference between the two groups.¹

This modern-day trial showed that patients with angina and multivessel disease do better with surgical bypass. The mortality was half that of PTCA-treated patients, and those opting for angioplasty with stenting developed restenosis and atherosclerotic progression in other vessels.

The MASS-2 trial (Brazil)

Approximately 611 patients with stable CAD, all with ejection fractions above 50% and with either two- or three-vessel CAD, were randomised to three treatment strategies:

1. Medical therapy
2. Surgery
3. PTCA

The average age of patients was 60. Two-vessel disease was seen in 41% of patients and 59% had three-vessel involvement. The mean ejection fraction was 67%. One-third of patients received statin therapy, 95% were given acetylsalicylic acid (ASA), and 75% to 80% were treated with beta blockers. Angiotensin-converting enzyme inhibitors were used to a very low degree [the trial started before results of the Heart Outcomes

Prevention Evaluation (HOPE) study were available]. On average, two-vessel angioplasty was performed, with 70% of patients getting stents in the PTCA group versus the 3.1 bypass grafts per patient seen in the surgical arm of the study.²

The one-year survival rate was best in those who

received surgery, followed by those who got medical therapy. The least positive results were seen in the PTCA group.²

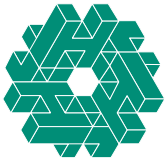
After one year, angina was highest in the PTCA arm, occurring in 25% of individuals. It was lowest in the surgical group at 6%, and intermediate in the medical arm at 13%.²

This study showed that in patients with chronic stable CAD with good left ventricular function and multivessel disease, surgery worked best. Medical therapy and PTCA were also very reasonable options, but the latter had the highest recurrence of angina.

In patients with chronic, stable atherosclerosis and multivessel disease, surgery is most effective at reducing angina and decreasing total mortality.

Physician's Perspective

Modern-day medical therapy has changed dramatically, so have angioplasty and surgical ther-



apy. While it is always hard to keep up, new advances have taken place in all areas. What is good to see is that with well-selected patients and modern medical management, mortality and morbidity are extremely low no matter what treatment choices are made.

PTCA is now becoming more widespread and is often selected by many physicians and patients because of its ease of application. However, the trials mentioned here clearly demonstrate that in patients with chronic stable atherosclerosis and multivessel disease, surgery is most effective at reducing angina and decreasing total mortality.

Medical therapy also provides low event rates, and while PTCA may traumatise a stable plaque, it can still produce positive results. However, it is important that in stable patients, and in those who have multivessel CAD, PTCA be used for symptomatic control and not for prolongation of life. Long-term success following PTCA remains a problem, with possibility of restenosis and progression of atherosclerosis in other vessels.

A major limitation of all of these trials was their small sample size and the extremely well-selected patients. However, the trials were randomised and gave us important information to help manage patients with angina pectoris. In patients with acute ischemic syndromes, where the artery is already damaged, stenting appears to stabilise the plaque and the results are more favourable than results with medical therapy. However, these trials did not truly address acute coronary syndromes.



In stable patients, and in those who have multivessel CAD, PTCA should be used for symptomatic control and not for prolongation of life; long-term use can cause restenosis.

References

1. The Stent or Surgery (SOS) Trial Investigators: Coronary artery bypass surgery versus percutaneous intervention with stent implantation in patients with multivessel coronary artery disease: A randomised controlled trial. *Lancet* 2002; 28(9338):965-70.
2. Hueb WA, Soares PR, Almeida De Oliveira S, et al: Five-year followup of the medicine, angioplasty, or surgery study (MASS). *Circulation* 1999; 100(19 Suppl):II107-13.

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