Transcatheter Coronary Revascularization Registry 1995†

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Abstract

In 1995, from 12 participating units, there were 1108 PTCA compared to 697 in 1994, 24 rotational atherectomy and 109 intracoronary stent placements performed. These were complicated by 6 acute myocardial infarction, 10 emergency surgeries and 11 deaths. Success rate was 92 per cent. Indication for transcatheter revascularization were stable angina pectoris in 60 per cent of cases, unstable angina in 18 per cent and post infarct angina in 16 per cent. Thirty cases were done in AMI setting. Of those 1108 vessels approached, 1297 lesions were in native arteries and 9 were in saphenous vein grafts. Most lesions were in AHA/ACC type B category. One hundred and fourteen stents were placed in 109 patients in 1995. Seven stents emboli occurred in addition to one myocardial infarction, 2 CABG, 2 death and 2 major bleeding.

Transcutaneous coronary revascularization has increased in number with acceptable results. Coronary stenting was done in an average of 10 per cent of all procedures and also with reasonable complication rates.

This is the second national coronary intervention report from the Coronary Intervention Club of Thailand. The first report included coronary angioplasty from 1989 to 1993. Both these reports were voluntary. It is the policy of the Club to continue yearly registry for establishing national standardization of these procedures. It is also the Club's intention to encourage each participating unit to use these data for internal quality assurance.

METHOD

A registry from[1] was sent to all cardiac catheterization laboratories in Thailand asking for number of transcatheter revascularization procedures and their details. As in previous registry, all data were collected retrospectively. However, data are usually recorded immediately after the end of each procedure in most laboratories.

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RESULTS

Sixteen catheterization laboratories from 12 centers participated in the registry. There were 1108 percutaneous transluminal coronary angioplasty (PTCA) procedures performed on 1319 native coronary arteries and on 11 bypass grafts. Twenty four high speed rotational atherectomy on 29 native coronary arteries and 109 stents placement for 108 native vessels and 3 vein grafts were performed during the same period. This represents more than a hundred per cent increase over a 24 month-period[2]. Overall success rates from each unit varied from 80 per cent to 98 per cent with an average of 92.3 per cent. Complications were as shown in Table 1.

The majority of vessels involved were the left anterior descending artery (Table 2). Type B lesion constitute nearly half of all lesions (Fig. 1). Indications for PTCA included stable and unstable angina, acute infarct and prognostic (Table 3). More than half of the patients had stable angina pectoris.

With regard to stent implantation, the majority of cases were done in patients with stable angina pectoris (Table 4). Stents were implanted in the left anterior descending artery more often than other vessels (Table 5). Ten centres performed stent implantation. One hundred and nine stents were successfully deployed for 111 lesions on 111 vessels in 96 patients. Only 15 out of 64 patients were prescribed coumadin after stent implantation (Table 6). Seven stents were unsuccessfully deployed. There was one acute myocardial infarction, 2

Table 1. Major complications following balloon angioplasty (n = 1108).

	No. of lesion (%)	
Acute myocardial infarction	6	(0.54)
Surgery+	10	(0.90)
Death	11	(0.99)

+ emergency surgery within 48 hours of the procedure

Table 2. Vessels underwent PTCA (n = 1330).

Vessels	No. of lesion (%)	
Left anterior descending	735	(55.3)
Left circumflex	291	(21.9)
Right coronary	286	(21.5)
Left main trunk	7	(0.5)
Saphenous vein graft	8	(0.6)
Internal mamary	3	(0.2)

Table 3. Clinical indications for PTCA (n = 686).

	No. of lesion (%)	
Stable angina pectoris	413	(60.2)
Unstable angina pectoris	123	(17.9)
Acute myocardial infarction	30	(4.4)
Post infarct angina	110	(16.0)
Prognostic	10	(1.5)

prognostic = asymptomatic patients with large ischemic myocardium

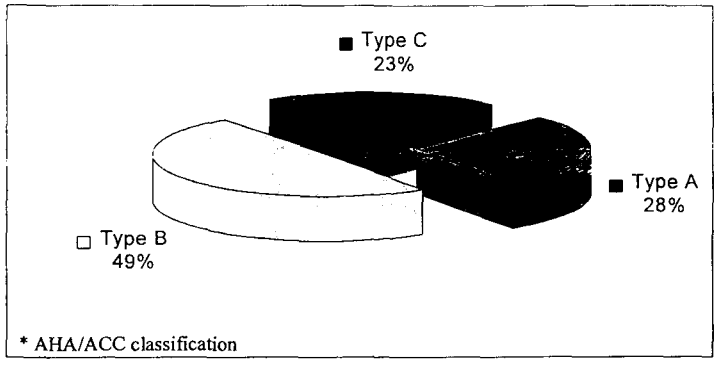

Fig. 1. Type of lesions underwent PTCA (n = 732).

Table 4. Clinical setting of patient underwent stent implantation (n = 67).

	No. of cases (%)
Stable angina pectoris	41 (61.2)
Unstable angina pectoris	16 (23.9)
Acute myocardial infarction	0 (0)
Post infarct angina	10 (14.9)

Table 5. Vessel stented (n = 111).

Vessels	No. of lesion (%)
Left main trunk	2 (1.8)
Left anterio descending	68 (61.3)
Left circumflex artery	16 (14.4)
Right coronary artery	22 (19.8)
Saphenous vein graft	3 (2.7)

Table 6. Anticoagulant used (n = 66).

Anticoagulant	Number	Rate (%)
Heparin	53	80.3
Aspirin	66	100
Dipyridamol	4	6.1
Ticlopidine	56	84.8
Coumadin	15	22.7

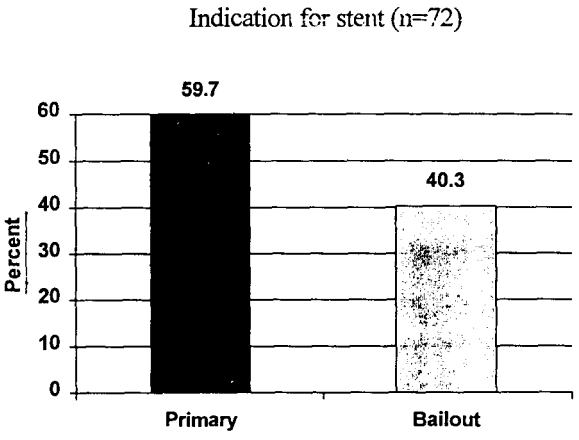

Fig. 2. Indication for stent (n = 72).

emergency surgeries, 2 significant hemorrhages and 2 deaths following stent implantation.

Laser angioplasty was not done in the country in 1995.

DISCUSSION

Coronary angioplasty was first performed in this country in 1989[2]. Reports of new coronary intervention techniques were subsequently followed[3,4]. Our data showed a sharp rise in the number of PTCA from 389 in 1993, 687 in 1994 to 1108 procedures in 1995[2]. This is probably due to the increasing number of laboratories and interventionists as well as more acceptance of the procedure by the public. Complications were collected and reported for the first time in 1995. Its incidence was comparable to the international figure [5-8] which was around 1 per cent.

Stent implantation gained[9,10] its popularity over high speed rotational artherectomy after a report from Columbo et al that anticoagulant was not necessary after placement. Moreover, reports that stents can reduce restenosis rate by 30 per cent[10,11] increasing its use as a provisional procedure rather than in a bailout situation. At the same time, high speed rotational artherectomy remains costly because of necessity to use multiple burrs and it needs additional balloon angioplasty.

This national percutaneous transluminal coronary angioplasty (PTCA) registry of Thailand is a voluntary registry, the data are unaudited. While the number of procedures performed would be expected to be reliable, information about complications is less valid because the method of documentation of those complications may vary from unit to unit. Moreover, electrocardiograph and cardiac enzyme may not be uniformly performed after the procedures in all units. However, it is hoped that the laboratories participating in the registry will use the data for internal quality control. Although, this report did not represent all of the interventional procedures performed in the country, there was only one small unit that did not participate. It is expected, however, there will be total partipation in the future since quality assurance in the catheterization laboratory is becoming more of an issue particularly in the private sector. It is also hoped that these data provide a point of reference for hospital administration and patients who request performance information.

Because of the retrospective collection, some units had difficulty in supplying all items requested. It is expected that data collected prospectively using a common standard registry form in the future will be more complete.

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การขยายหลอดเลือดหัวใจตีบตันในประเทศไทย : ปี พ.ศ. 2538†

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ในปี พ.ศ. 2538 มีการขยายหลอดเลือดหัวใจที่ตีบตันทั้งสิ้น 1108 เส้นจากห้องปฏิบัติการสวนหัวใจ 12 แห่งทั่วประเทศ ซึ่งในจำนวนนี้เป็นการกรอหลอดเลือดหัวใจที่ตีบ 24 รายและการใส่ stent 109 ราย โดยมีความสำเร็จสูงถึง 92% ข้อบ่งชี้ในการทำพบว่า 60% เนื่องจากภาวะ angina pectoris, 18% จากภาวะ unstable angina และ 16% จาก angina หลังกล้ามเนื้อหัวใจตาย มีผู้ป่วย 30 รายได้รับการขยายหลอดเลือดขณะมีภาวะกล้ามเนื้อหัวใจตายเฉียบพลัน รอยโรคที่ได้รับการขยายส่วนใหญ่เป็น type B (ตามการจัดโดย AHA/ACC) มีภาวะแทรกซ้อนเกิดขึ้นดังนี้คือ กล้ามเนื้อหัวใจตายเฉียบพลัน 6 ราย, ต้องรับการผ่าตัดด่วน 10 ราย และตาย 11 ราย จากจำนวนเส้นเลือด 1108 เส้นนี้ มี 1297 รอยโรคที่เกิดในเส้นเลือดดั้งเดิม (native vessel) และ 9 รอยโรคเกิดใน saphenous vein graft ส่วนผู้ป่วยที่ได้รับการใส่ stent 109 รายนั้น ใช้ stent ทั้งสิ้น 114 อัน

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