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Research Brief

Early discharge of patients (within 24 h) after percutaneous coronary intervention is feasible and safe in Indian setup

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ABSTRACT

Percutaneous coronary intervention (PCI) is the commonest cardiac procedure in most centres in India. Unlike in most western countries, patients who undergo PCI in India are discharged after a few days. We undertook an observational study of 100 consecutive patients to evaluate the outcome of early discharge (within 24 h) after uncomplicated elective PCI. This showed that early discharge is feasible and safe; and most patients felt comfortable with early discharge. It is the responsibility of the interventional cardiologist to educate and reassure these uncomplicated PCI patients about the safety of this approach.

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1. Introduction

Major advances in interventional techniques and pharmacotherapy have radically transformed the management of patients undergoing percutaneous coronary Intervention (PCI) in recent years. In most western countries, patients undergoing elective PCI for stable angina are discharged on the same day or the next day, unless there are compelling reasons to keep them overnight, such as procedure or access-related complications. The traditional way in Indian setup is to keep patients for few days in hospital after an elective PCI. We aimed to study the outcome of discharges within 24 h in selected group of patients after uncomplicated elective PCI.

2. Methods

This is an observational study of 100 consecutive patients who were discharged within 24 h after their PCI in an urban tertiary care hospital. Patients were selected if they underwent uncomplicated PCI (one or two stents with normal renal function, left ventricular ejection fraction (LVEF) >50% and non-left main coronary artery (LMCA) PCI). Patients and relatives were informed about the symptoms to look out within the first 24 h. A dedicated phone number was provided to them to call at any time to discuss about the patient, if needed.

3. Results

The first 100 patients who were discharged within 24 h were included in the study. The baseline characteristics of the patients are provided in Table 1. In 62 patients, the indication for PCI was stable angina, 24 patients had unstable angina and 10 patients had recent non ST elevation myocardial infarction (NSTEMI). Of the 77 patient who had single vessel PCI, 10 had 2 stents deployed. Other 23 patients had 2 vessel PCI with 2 stents used. Of the 7 patients who had femoral access, 4 of them had previous coronary artery bypass graft (CABG) and the PCI was performed as ad-hoc procedure after angiogram. The other 3 had femoral access as per their choice due to pain after previous radial angiogram. Femoral closure device was used in all those femoral access patient (5 had angioseal and 2 had proglide).

One patient had PCI to LAD via LIMA and another 2 patients had PCI to saphenous vein graft (SVG). One patient had rotablation to LAD via radial access with 7F Glidesheath slender (Terumo Corp., Japan). Six patients had bifurcation PCI (all of them had single stent-provisional strategy with kissing balloon inflation). Fractional flow reserve was used in 12 patients before PCI. Imaging was used in 36 patients (22 intravascular ultrasound (IVUS) and 14 optical coherence tomography (OCT)) as part of PCI guidance.

All of them were discharged with ecosprin 75 mg od and 58 of them had clopidogrel as the other anti-platelet, 34 of them had prasugrel and 8 of them had ticagrelor.

Only 8 patients contacted us via the phone number provided within 48 h of discharge—2 calls related to the access site, 4 calls related to chest pain, one related to medication query and another

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Table 1

Baseline and procedural characteristics of patients who had early discharge after elective PCI.

Patient characteristics	
Age, years	57 ± 10.9 (mean ± SD)
Male/Female	88/12
Radial/Ulnar/Femoral	89/4/7
Indication for PCI	
Stable angina	62
Unstable angina	24
Recent NSTEMI	10
>1 Vessel PCI	23
Number of stents	1.33 ± 0.47 (mean ± SD)
Diameter of stent, mm	2.7 ± 0.7 (mean ± SD)
Length of stent, mm	26.7 ± 9.4 (mean ± SD)
>1 Stent	33
Vessel treated	
LAD/D1	48
Cx/OM/RAMUS	35
RCA/PDA	38
Graft	2
FFR	12
Rotablation	1
Intravascular imaging	
IVUS	22
OCT	14
Antiplatelet on discharge	
Aspirin	100
Clopidogrel	58
Prasugrel	34
Ticagrelor	8

patient related to skin rashes that developed after discharge. Two patients were advised to do an electrocardiography (ECG; one was performed in local hospital and other one came to our emergency department). Both ECGs did not show any significant changes and they were re-assured. None of the patient needed re-admission. Except for the 2 patients who had ECG performed, all patients were satisfied with the discharge plan when enquired during their first follow-up visit in 1 week. There was no major adverse cardiovascular event (death, myocardial infarction and stroke) in any of the patient at 30 days.

4. Discussion

This study shows that in an urban Indian setup, discharge within 24 h is feasible and safe after elective uncomplicated PCI. The key in selecting the patients comes with the experience of the operator and educating the patient and attender. Contrary to general myth that patient would like to stay longer in hospital after heart procedure, most of our patients and attenders in our study were keen to be discharged earlier from the hospital to be at the comfort of home. It is the reassurance from the doctor that is more important to them. Only 3 patients who were advised to get discharged within 24 h declined the offer and wanted to stay another day in hospital.

In most western countries, there is a trend towards discharging patients on the same day after elective PCI.^{1–3} The improvement in the PCI techniques, skills of the operators, use of imaging techniques and newer anti-platelet agents have reduced the incidence of procedural complications and stent thrombosis. Nevertheless, despite appropriate care, other risks including intra-cranial haemorrhage and thrombo-embolic stroke still remains. The lack of prompt ambulance service in certain parts of the country is one of the major limiting factors for the physician to discharge patients early after PCI. There was one previous study of same-day discharge after PCI in India was published with 62 patients in 2015.⁴ However, this was undertaken in a government institute and that does not reflect the contemporary practice of interventional cardiology at the current time. In private sector, the patients and the doctors are reluctant to discharge patient on the same day because of various reasons.

The important psychological aspect from the patient perspective is the ease to contact someone responsible in the hospital if any issues arise after early discharge from the hospital. One of the ways to deal with is by providing a dedicated telephone number of coronary care unit in the hospital, to whom they can contact if any issues/doubt arises or the telephone number of a specialised trained nurse.

5. Conclusion

In conclusion, this study shows that early discharge (within 24 h) is feasible and safe in most patients undergoing elective PCI in India. However, a larger study is needed to confirm the findings of this study. It is the responsibility of the interventional cardiologist to educate and reassure these uncomplicated PCI patients about the safety of this approach. We believe most patients and their family will appreciate this move towards early discharge and will ease the bed crisis noted in some hospitals.

Conflicts of interest

All authors have none to declare.

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