

petrosal segments of right internal carotid artery. The patient died of rapid hemodynamic collapse four hours after arriving at the Emergency Department.

Discussion: From the poor outcome of this critical case, we learned a significant lesson about managing this major trauma. Priorities of resuscitation and the current concepts of therapy were reviewed.

Keywords: carotid artery; head trauma; intracranial hemorrhage; motorcycles; pseudoaneurysm; skull fracture

Poster Session IV

Wednesday, 13 May, 14:00–15:00 hours

P-12

Strategy for Acute Myocardial Infarction Due To Obstruction of Left Main Trunk of the Left Coronary Artery

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Introduction: Recently various catheter interventions (i.e., percutaneous coronary angioplasty (PTCA), stent, etc.) have been used for the treatment of acute myocardial infarction (AMI). Using these interventions, the results of treatment for AMI have improved. However, AMI due to left main trunk of left coronary (LMT) artery often still is fatal.

Purpose: To investigate the factors to improve the treatment for cases with obstruction of the main left coronary artery.

Methods: We performed coronary artery bypass grafts (CABG) for 593 cases of ischemic heart disease between February 1982 and March 1998. Out of these cases, 74 cases (12.5%) had an AMI. Furthermore, 13 (17.6%) of the AMI cases had obstruction of the LMT. Preoperatively, 11 cases (84.6%) were Forrester Type IV. All of these cases required assistance with an intra-aortic balloon pump (IABP) preoperatively. Eight cases had intervention for and obstructed LMT; two cases had failed PTCA for other portion of the vessel.

Results: Early death occurred in six cases (Group D), and there were seven cases in the survival group (Group S). There was one case of right coronary artery (RCA) dominance in Group S. Except for this case, the time to catheter intervention from onset of AMI of Group S was shorter than for Group D. In the three cases in Group D in whom reperfusion of LMT could not be obtained, the time to operation from onset was >6 hours.

Conclusion: AMI cases due to LMT obstruction had catheter intervention performed within 2–3 hours from onset, if possible. After that, CABG was needed as early as possible after the patient was assisted by IABP. If intervention was unsuccessful, CABG was needed within four or five hours.

Keywords: acute myocardial infarction; angioplasty; arteries, coronary bypass, balloon pump, coronary bypass graft; intra-aortic; heart disease, ischemic

P-13

Association between Angiotensin Converting Enzyme Gene Polymorphism and Acute Coronary Syndrome in Taiwan

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Introduction: The angiotensin-converting enzyme (ACE) is responsible for the production of angiotensin-II and in the degradation of bradykinin, two important peptides involved in cardiovascular physiology. Plasma and cellular ACE levels in humans are influenced by an insertion (I)/deletion (D) polymorphism of the ACE gene, the ACE I/D polymorphism. Angiotensin converting enzyme gene polymorphism has been reported as a risk factor for the Acute Coronary Syndrome. The Acute Coronary Syndrome has become one of the top 10 causes of mortality in Taiwan. Hence, early diagnosis and prompt treatment are important issues for the emergency cardiovascular care.

Purpose: Since the relationship between ACE gene polymorphism and Acute Coronary Syndrome has not been reported in Taiwan, this study was directed at the analysis of the role of the ACE gene in cardiac diseases, particularly in emergency cases. Besides, early diagnosis of the Acute Coronary Syndrome presents a great challenge to emergency physicians because of the high mortality rate associated with this disease. The traditional serum cardiac markers including CK-MB, SOGT, and LDH may not achieve the goal of early diagnosis for minimizing the time to initiation of therapy. In this study, Troponin-T was used as a tool for the diagnosis of the Acute Coronary Syndrome, and its clinical roles in early diagnosis was studied.

Discussion: We believe that ACE gene polymorphism might be a significant risk factor for the Acute Coronary Syndrome in the Taiwanese population. Screening of the ACE gene polymorphism will become a significant aspect of Emergency Medicine in the near future.

Keywords: acute coronary syndrome; angiotensin converting enzyme; polymorphism; risk factors; Taiwan; troponin-T

P-14

The Pattern of Ambulance Arrivals in the Emergency Department of a General Hospital in Singapore — Is It Different from Walk-In Arrivals? What Is the Impact?

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Introduction: A patient brought into the Emergency

Department by ambulance requires more resources than does the patient who walks into the Emergency Department. Hence, it is important to know the pattern of ambulance arrivals for judicious utilisation of limited resources, so as to plan for future resource allocation.

Method: This is a retrospective study of all ambulance arrivals in the Emergency Department of Tan Tock Seng Hospital in 1996. The following data of each attendance were abstracted from computer records: 1) demographic data; 2) the number of ambulance arrivals by hour, emergency or non-emergency, trauma or non-trauma; 3) cause of injury for trauma cases; 4) discharge status; and 5) turn-around time (time from arrival to disposal in the Accident and Emergency Department (A & E)).

Where relevant, these data were compared to those of the walk-in patients and with the total arrivals of the same year. The total numbers of ambulance cases brought to the A & E Department of the six governmental acute hospitals in Singapore in 1996 was obtained from the Summary Analysis of Work Done in Public Sector Hospitals, Primary Health Care and Dental Clinics 1996 issued by the Ministry of Health.

Results: The Department of Emergency Medicine in our hospital evaluated 110,584 patients in 1996, which accounted for 19.8% of the total Emergency Department attendance in Singapore: the second busiest emergency department for that year. 12.4% (13,697 cases) came by ambulance. This constituted 27% (the highest) of the total ambulance cases brought to the six A&E Departments of the acute hospitals in Singapore in 1996. 61.2% and 38.8% were male and female patients respectively. The majority of the patients (68.5%) were Chinese. The age distribution of the ambulance and walk-in arrivals is listed in Table 1.

Table 1—Age Distribution of Ambulance and Walk-in Arrivals

	Ambulance	Walk-in
Number of Arrivals	13,697	96,887
Age, <12 years (%)	8.2	21.8
Age, 13–19 years (%)	7.2	8.1
Age, 20–59 years (%)	46.6	53.0
Age, >60 years (%)	37.4	17.1

The majority (98.5%) was classified as emergencies following the guidelines provided by the Ministry of Health, Singapore. 40.7% of the ambulance arrivals were due to trauma versus 27.3% of the walk-in arrivals. The majority of the ambulance trauma cases were brought in because of road traffic accidents (15.3%) or home accidents (7.4%). The peak in ambulance arrivals was between 21:00 h–23:00 h compared to 10:00 h–12:00 h for the walk-in arrivals.

The median turnaround time for an ambulance case was 30 minutes, which compares to 43 minutes for all cases seen in the A & E Department. The majority (53.7%) of ambulance arrivals was admitted, and 31.8% were treated and discharged.

Conclusion: There was a larger proportion of patients >60 years old brought in by ambulance than in the walk-in population. This would support the view that our older patients were more ill and required more resources.

Hence, in the future planning of resource allocation like staff deployment and purchase of equipment and in the development of contingency plans, emphasis will be placed on the resource usage of ambulance arrivals, and we will use the pattern of their arrivals as an aid.

Keywords: Accident and Emergency Department; age; ambulance; arrival mode; injuries; planning; walk-in

P-15

Prehospital Medical Treatment in the County of Östergötland, Sweden

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Background: The county of Östergötland in southern Sweden has a population of around 414,000 of whom 298,000 live in the three towns with a hospital. The county has an area of 10,500 square kilometres, and consists of three districts: 1) the western (with a county hospital); 2) the central (with a university hospital); and 3) the eastern (with a large central hospital). The three hospitals keep medical teams prepared to be dispatched 24 hours every day in order to respond to an alert. Each team consists of a trained doctor and nurse with protective clothing and necessary medical equipment for prehospital treatment. Additional teams from 11 primary care centres are available during office hours and are able to be assisted by a team from the nearby hospital. The alert always is conveyed by the county SOS Emergency Centre.

Aim: In 1998, a survey was performed of the complete activities of the teams with special attention to the medical procedures applied, time data of the response, and to methods of transportation. An attempt was made to evaluate the effects of the prehospital treatment on the outcome of each patient.

Methods: A special written report was made at each occasion by both the hospital and/or primary care centre and by the team alerted stating the time data concerned and the medical treatment applied. Comparisons were made to the ambulance report and to the report from the county Alert Centre, the SOS Emergency Centre. Finally, hospital records of the patients treated were scrutinised in order to evaluate the procedures and the outcome.

Results: (preliminary): Up to 31 October, 1998, the teams of the county had responded to 97 alerts. The alert for the medical team was canceled before or during the response in 34 instances. Thus, 63 responses were fulfilled, 38 of which were caused by traffic accidents. The response by the team was achieved within 5 minutes in 22 instances and between 5 and 10 minutes in 24 instances. Existing data for 48 responses show total time consumed to be <30 minutes in 5 instances, 30≤60 minutes in 22 and >1 hour in 21 instances.

Medical procedures performed together with the ambulance staff in the 63 responses were: intravenous line and infusion of Ringer's solution, 31; administration of analgesics/sedatives, 8; maintenance of airway, 7;