FREE PAPER SESSION 5

Nightingale Room, 08:15h, 6th April 2019

08.15 - 08.25 **Drug Use Evaluation (DUE) of Sacubitril/Valsartan in a Tertiary Hospital**

She Hui Tan*[1] ; Peik Ching Low*[1] ; Nancy Mei Ling Yong*[1] ; Yashi Saw1 ; Dr Raymond Wong[2] ; Dr WeiQin Lin[2]
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08.25 – 08.35 **Vaccination in Heart Failure Patients; The Gap between Awareness and Adherence**

Po Fun Chan[1] ; Lay Cheng Toh*[1] ; William Kristanto[1]
[1]Cardiology/ Ng Teng Fong General Hospital/ Singapore

08:35 – 08:45 **Anticoagulation in Older Adults**

Siti Shafia Bte Yang Razali[1] ; Zi Huan Mok[1] ; Sher Yin Tan*[1] ; Barbara Helen Rosario1
[1]Geriatric Medicine/ Changi General Hospital/ Singapore

08:45 – 08:55 **An Evaluation of the Pharmacists-Led Anticoagulation Clinic in Achieving Time to Therapeutic Range (TTR) at Changi General Hospital**

Hui Bing Chuah*[1] ; Daniel Fletcher[1] ; Kelvin Wong[2]
[1]Pharmacy/ Changi General Hospital/ Singapore [2]Cardiology/ Changi General Hospital/ Singapore

08:55 – 09:05 **Evaluation of a Pharmacist Managed Inpatient Anticoagulation Service**

Daniel Fletcher*[1]
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09:05 – 09:30 **A Pilot Study: Same Day Discharge (SDD) Post Percutaneous Coronary Intervention (PCI) in Singapore**

Randal, Jun Bang Low*[1] ; Deanna Khoo[1] ; Hee Hwa Ho[1] ; Huimin Li[1] ; Yu Ping Lim[1] ; Christina HH Tan[1] ; Jun Hui Chai[1] ; Paul JL Ong[1]
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Topic: Heart Failure / Cardiovascular Rehabilitation & Preventive Cardiology
Abstract No: 10298

Drug Use Evaluation (DUE) of Sacubitril/Valsartan in a Tertiary Hospital

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Objective(s)

To determine appropriateness of sacubitril/valsartan usage within a tertiary institution, its efficacy and safety outcomes.

Material and Method

In this retrospective drug use evaluation, patients prescribed with sacubitril/valsartan and followed up in our institution from May 2016 to December 2017 were included. Usage appropriateness was evaluated according to inclusion and exclusion criteria in PARADIGM-HF trial. Primary efficacy outcomes were all-cause and heart failure related hospitalizations, while safety outcomes were blood pressure and renal function.

Result(s)

59 patients prescribed with sacubitril/valsartan were included. Mean age of study population was 61.41 (± 11.3) years, with majority being male (n=46, 78.0%). At initiation, 49 patients (83.1%) had LVEF ≤ 35% and 57 patients (96.6%) had eGFR ≥ 30 mL/min/1.73m^2. None had contraindications stated in product monograph. Majority of patients were initiated at doses of 25mg BD (n= 25, 42.4%) and 50mg BD (n= 25, 42.4%). 14 patients (23.7%) discontinued sacubitril/valsartan treatment, majority (n=8, 57.1%) due to non-medical reasons, e.g. costs and patient preference, 4 patients (28.6%) with symptomatic hypotension and 2 patients (14.3%) with worsening kidney function.

Among patients who received 12 months treatment, risks of all-cause and heart failure related hospitalizations were significantly reduced as compared to before initiation, with relative risk of 0.47 (0.30 – 0.74) and 0.30 (0.16 - 0.61) respectively. For safety outcomes at 12 months post-initiation, 8 patients (17.7%) had systolic blood pressure (SBP) of <95 mmHg, average SBP was significantly lower as compared to baseline (119.67 ± 20.2 vs. 114.16 ± 18.9 mmHg, p= 0.05). 2 patients (4.4%) had serum potassium level >5.2 mmol/L, and 1 patient (2.2%) with eGFR < 30 mL/min/1.73m^2. Average serum potassium level and eGFR were not significantly different from baseline.

Conclusion

Overall, use of sacubitril/valsartan within our institution was appropriate. Sacubitril/valsartan use was associated with decreased SBP, reduced all-cause and heart failure hospitalizations at 12 months.

Keywords: drug use evaluation;sacubitril/valsartan/heart failure;efficacy outcomes;safety outcomes

Topic: Heart Failure / Cardiovascular Rehabilitation & Preventive Cardiology
Abstract No: 10398

Vaccination in Heart Failure Patients; The Gap between Awareness and Adherence

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Objective(s)
Patients with heart failure (HF) commonly experience acute exacerbations. There is significant overlap between respiratory infections and these episodes, and vaccination against Influenza and Pneumococcus is a cost-effective intervention to improve quality of life and clinical outcomes. This study explores the gap between physician awareness and adherence.

Material and Method
Physicians were polled via an online survey.

Result(s)

140 physcians were polled.

There were 29 Cardiology specialists/trainees surveyed. All confirmed regular management of HF patients, with 76% expressing familiarity with vaccination guidelines. 4 who claimed familiarity, however, were unaware that pneumococcal vaccinations were also recommended; They were all associate consultants and above. 1 trainee was not convinced of the benefit of vaccination. Only 45% of the cardiologists always/often screen and offer vaccinations to their patients, and only 48% feel that their patients complete their vaccinations all/most of the time.

65 of those polled were from non-Cardiology disciplines, but encountered HF patients on a regular basis, and had opportunities to offer vaccinations. Only 18 were familiar with vaccination requirements in HF patients, and 3 were unconvinced about the benefit. A mere 25% of these physicians always/often screen and offer vaccinations to their patients, and only 20% feel that their patients complete their vaccinations all/most of the time. Senior physicians appeared more inclined to offer vaccinations than their junior counterparts.

Perceived barriers include the lack of awareness and time, and difficulty in checking if the patients have been previously vaccinated. For the cardiologists, patient-refusal was also a significant barrier.

Conclusion
Despite general concensus that influenza and pneumococcal vaccinations are beneficial to HF patients, adoption and adherence to this adjunctive HF therapy appears to be less than ideal in the real-world setting. Barriers are identified, and addressing these issues can lead to better compliance in physicians managing HF.

Keywords: Heart Failure; Vaccinations; Influenza; Pneumococcus

Topic: Heart Failure / Cardiovascular Rehabilitation & Preventive Cardiology
Abstract No: 10368

Anticoagulation in Older Adults

Siti Shafia Bte Yang Razali[1] ; Zi Huan Mok[1] ; Sher Yin Tan*[1] ; Barbara Helen Rosario[1]
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Objective(s)
Many elderly patients are on oral anticoagulants. Oral anticoagulants are high risk medications and the decision to start or stop in the elderly can be difficult. There are variations in prescribing practices and systems. We aimed to investigate the prescribing practices in our institution and determine whether Direct Oral Anticoagulants (DOACs) are becoming standard of care in older patients.

Material and Method
A retrospective audit was undertaken of 143 individual prescriptions of oral anticoagulants (predominantly in-patient) by the Geriatric Department between end 2015 and beginning 2017. Electronic records were reviewed and demographic data extracted for the following: indication for anticoagulation, whether patients were still on anticoagulation at time of analysis, the teams that initiated and followed up treatment and handover processes. Where anticoagulation treatment had been interrupted or stopped, we searched for documented reasons for interruption. We also looked at frequency of INR and kidney function monitoring, as well as default rates and mortality.

Result(s)
The average age was 82.8 years (age range 67-97) and 69% were female and 31% male. Race distribution was 75% Chinese, 20% Malay, 3% Eurasian, 2% Indian. The majority of patients (83%) were on anticoagulation for atrial fibrillation. Of the anticoagulants, 53% were on warfarin and 47% were on DOACs (27% rivaroxaban, 15% apixaban and 5% dabigatran). Anticoagulant treatment was stopped at some point in 45% of patients. Mortality in the cohort was 36% and predominantly from pneumonia rather than cardiovascular causes, although cause of death was not available for all patients.

Conclusion
Almost half of this cohort was on DOACs but warfarin is still utilized more commonly in advanced age. A large proportion of patients had their treatment interrupted or stopped and mortality was predominantly from non-cardio vascular causes. This audit identified a need for more robust follow up systems for older patients on anticoagulants.

Keywords: Anticoagulants; elderly; atrial fibrillation; stroke

Topic: Basic Science
Abstract No: 10300

An Evaluation of the Pharmacists-Led Anticoagulation Clinic in Achieving Time to Therapeutic Range (TTR) at Changi General Hospital

Hui Bing Chuah*[1] ; Daniel Fletcher[1] ; Kelvin Wong[2]
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Objective(s)

To determine the percentage of time to therapeutic range (TTR) of ACC managed patients' International Normalised Ratio (INR) compared with those managed by physicians.

Material and Method

This is a retrospective observational cohort study done in CGH outpatient settings. INR of AF patients on warfarin from 1st January 2015 till 31st December 2016 were extracted and divided according to care groups (ACC led and physician led). Based on the inclusion and exclusion criteria, there were 40 patients in the ACC group and 38 patients in the physician group). Statistical Package for Social Sciences (SPSS) v.21.0. was used for data analysis. Independent t-test was used to analysed the TTR between the two groups. INR values <1.5 and > 5.0 for both groups were also tabulated.

Result(s)

Patients from the ACC group had a TTR 55% of the time compared with 53% in the physician group. There was no significant difference in mean TTR (mean difference -1.38%, 95% CI -10.6% to 7.83%; p = 0.766). During the two year titration period, 200 INR values in the ACC group were< 1.5 compared to 140 INR values in the physicians' group (5.38% vs 3.76%). For INR >5.0, there were 8 INR values from the physicians' group and 4 values from the ACC group that exhibit this (0.22% vs 0.11%).

Conclusion

The effectiveness ACC managed cases were identical to the physicians postulating that the management is comparable. There was a lesser incidence of supratherapeutic INR in the ACC group compared with the physician group.

Keywords: warfarin; INR; anticoagulation clinic; TTR;

Topic: Basic Science
Abstract No: 10306

Evaluation of a Pharmacist Managed Inpatient Anticoagulation Service

Daniel Fletcher*[1]
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Objective(s)

This study is to evaluate the effectiveness of the pharmacists led inpatient anticoagulation (IPAC) service compared to physicians at Changi General Hospital (CGH).

Material and Method

This is a retrospective cohort study carried from November 2012 to December 2013. The IPAC service only titrates warfarin and International Normalised Ratio (INR) is used to gauge for titration. Existing IPAC cases for the study period were compared against warfarin cases which were physician managed only. Sunrise Clinical Manager (SCM) was used to tabulate the patients' INR readings. Outcome measures were: 1) Percentage of INR in the therapeutic range within 5 days, 2) Average time to therapeutic INR, 3) Percentage of INR within therapeutic range on discharge and first follow-up and 4) Percentage of INR >4.0 and >5.0. T-test from the Statistical Package for Social Sciences (SPSS) v.21.0 was used for data analysis.

Result(s)

A total of 71 IPAC cases were compared to 58 physicians managed cases. IPAC had 38 cases achieving therapeutic INR within 5 days compared to 18 cases by physicians (53.5% vs 31%), (p=0.01). Time to therapeutic INR were faster for the IPAC cases compared to physicians (median 3 days, IQR 2-4 days vs median 5 days, IQR 3-8 days), results were statistically significant (p<0.01). IPAC had more therapeutic range INR cases on discharge compared to physicians (52.1% vs 46.6%) but there physician cases within range on first follow up instead (37.6% vs 29.6%). However, both results were not significant (p=0.53 and p=0.317). There were more IPAC cases with INR >4.0 and >5.0 compared to the physicians but this result was not statistically significant (p=0.328 and p=0.343).

Conclusion

The IPAC service was able to achieve a faster time-to-therapeutic INR compared to physicians with lesser cases of INR >4.0 and >5.0. The service can potentially be utilized to assist physicians to manage warfarin cases.

Keywords: warfarin; in-patient; INR; IPAC

Topic: Invasive Diagnostic & Interventional Cardiology
Abstract No: 10391

A Pilot Study: Same Day Discharge (SDD) Post Percutaneous Coronary Intervention (PCI) in Singapore

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Objective(s)

PCI is considered standard of care for a wide variety of indications in modern Cardiology, and has become a widely performed procedure in Singapore. By convention, patients are observed overnight in telemetry units before discharge.
We at the Tan Tock Seng Hospital Invasive Cardiac Laboratory conducted a prospective observational pilot study to assess the safety and efficacy of the first SDD program in Singapore.

Material and Method

Based on the following inclusion criteria, purposive sampling method was adopted to identify suitable candidates.

Patients' criteria	Intra-procedure criteria	Post-procedure criteria
Age≤65	Transradial/groin closure devices	No GP IIb/IIIa Inhibitors infusion
eGFR>60	Single-vessel PCI	No hemodynamic instability
Hb>10	Contrast<250ml	No vascular complication
Platelets>150	No para-procedure complications	No rise in CKMB>3x ULN
LVEF>40%	Stent≤48mm	No ECG changes/arrhythmias
Caregiver available		Selected by primary operator/Patient agreement

Routine post-PCI investigations including blood work and electrocardiogram were done 4 hours post-PCI, and patients were monitored for a total of 6 hours.
Patients were followed-up with telephone calls at post-PCI day-1, 3-months and 6-months. Pre-defined adverse outcomes that were monitored included: death from cardiac cause, target lesion failure, myocardial infarction, serious vascular complications, major bleeding, acute kidney injury, and readmission from cardiac cause.

Result(s)

32 patients were followed-up for 1 year. 1 patient was re-admitted 6 weeks post-PCI for mild congestive heart failure. Another patient presented to the Emergency Department for angina within the first month but did not require admission.
Otherwise, there was no occurrence of any of the other above-stated adverse events. There was also overall positive reception from patients.

Conclusion

SDD post-PCI in the elective setting appears to be safe in this highly selected group of patients. The benefits of SDD include decreased length of hospital stay with reduced cost, maximization of healthcare resources and improved patient satisfaction.
Further evaluation of this practice should be carried out in real world patients.

Keywords: discharge;elective;percutaneous;coronary;intervention