How to Write an Abstract & Make a Great Poster

Hamed Abbaszadegan, MD, MBA
ACP AZ Poster/Abstracts Chair
Chief of Health Informatics Officer
Phoenix VA Health Care System
Assistant Professor of Internal Medicine & Biomedical Informatics
University of Arizona College of Medicine-Phoenix
Overview

• Abstract
• Types of Posters
  – Research Poster
  – Case Presentation Poster
  – Quality Improvement Poster
  – Patient Safety Poster
• Construction
• Examples
• Presentation
• Judging/Evaluation
Purpose of a Poster

• Communicate research

• To illustrate key points in a visually stimulating manner

• To represent yourself and your work to peers and colleagues

• To network with leaders in your field of interest
Abstract

• An Abstract is a brief summary of a research article, thesis, case....quickly allowing the reader to ascertain the purpose.

• An abstract is used as the basis for selecting research proposed for presentation.
Abstract Continued...

- Abstract will form the body of your poster

- Take already concise description of your work (*abstract*) and transition it into an exciting, interesting, accurate work of art (*poster*)

- After you have selected your case or completed your research/project, review examples
  - Program research department
  - ACP website – link to “winning” abstracts
  - Friends/coworkers
Developing an Abstract

• Purpose:
  – Application for poster presentations
  – Making selections for oral presentations
  – Briefly summarize work, allowing reader to quickly ascertain purpose

• Challenges:
  – Months/years of work into ~300-400 words
  – Deciding if work is worth entering
Research Abstract

- Title and Author Information
- Introduction
- Methods
- Results
- Conclusion
- 250 words

- “Writing a Research Abstract” on the ACP website under “Residents and Fellows”
- http://www.acponline.org/residents_fellows/competitions/abstract/prepare/
Looking at Examples as we go...
Resolution of Co-morbidities and Diabetes Mellitus Type II in Native Americans Following Bariatric Surgery

Hamed Abbasszadegan, MD; Melissa Celaya Cortes, MA; Robin Blackstone, MD

Background

Recent studies have shown that bariatric surgery (RYGB) has been shown to improve health in obese patients. Early studies have shown improvements of HbA1c values, insulin resistance, beta-cell function, alleviation of peripheral insulin resistance, improvement of glucose control with 1 month postoperatively, and decreased diabetic medication requirements (1, 3, 4, 5). Factors associated with remission were the preoperative insulin dose and the percentage of excess weight loss (4). One study showed that RYGB improves diabetes remission by early increase in beta-cell function at 1 month, and alleviation of peripheral insulin resistance at 6 months (2).

Introduction

The unique predispositions and prevalence of obesity makes the Native American population a high priority for intervention. Weight loss has been shown in other populations to reflect the development and course of diabetes. Recent recommendations by the ADA have suggested that surgery may be an important treatment in the control of diabetes. This study reviews surgical treatment of obesity in a cohort of Native American patients from Arizona including surgical preoperative co-morbidities (especially diabetes) and postoperative outcomes.

Methods

An retrospective analysis of prospectively collected data from November 2001 to November 2006 was performed in Native Americans that underwent gastric bypass (WLS-17, 75.9%) and laparoscopic adjustable gastric band surgery (LAVB-9, 24.1%) in a community hospital. Descriptive analyses were executed to identify preoperative factors and co-morbidities, postoperative complications, and improvements in remission of diabetes.

Results

Among the 28 participants, 22 were patients who are female, aged an average age of 37.4 years, with the initial mean body mass index (BMI) of 48.5. Preoperative comorbidities included Type II Diabetes (14/29, 48.2%), hypertension (16/15, 51.7%), obstructive sleep apnea (15/29, 61%), musculoskeletal joint disease (15/29, 60.0%), and dyslipidemia (14/29, 48.2%). Resolution of comorbidities consists of Type II Diabetes (45.5%) confirmed by 2-hour postprandial glucose and HbA1C, hypertension (21.4%) confirmed after FPG stopped HBP medication, obstructive sleep apnea (21.4%) confirmed by sleep study, musculoskeletal joint disease (46.4%) confirmed by subjective history, and dyslipidemia (48.2%) confirmed by fasting lipid panel. A significant difference in percent excess weight loss at 12 months between preoperative Type II Diabetes and normoglycemic patients was not confirmed.

Conclusion

The prevalence and severity of obesity and diabetes in Native Americans is among the highest in a population group in the world. Post-operative comparison with non-Native Americans showed the effects of long-term weight loss and resolution of co-morbid disease as well. However, cultural characteristics may be partly responsible for the lower response rate. Use of plastic surgeons and laparoscopic gastric band surgery can provide long-term weight loss and the resolution of co-morbid disease.

<table>
<thead>
<tr>
<th>Pre-Operative Comorbidities (Total Patients studied = 29)</th>
<th>Patients with Comorbidities</th>
<th>Percent Resolution of Comorbidities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Mellitus Type II</td>
<td>11</td>
<td>45.5%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>15</td>
<td>33.3%</td>
</tr>
<tr>
<td>Obstructive Sleep Apnea</td>
<td>15</td>
<td>26.7%</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>14</td>
<td>42.9%</td>
</tr>
<tr>
<td>Musculoskeletal Joint Disease</td>
<td>29</td>
<td>46.4%</td>
</tr>
</tbody>
</table>

References

Pros & Cons of Prior Poster

- Background
- Text
- Color scheme
- Abstract
Clinical Vignette Abstract

• Title and Author Information
• Introduction
• Case Description
• Discussion
• 300 words

• A case worth reporting?
  – Classic example of unusual process
  – Unusual presentation common condition
  – New diagnostic strategy
  – Cost effective approach
  – Interest of others is mainly determined by your interest
Cryptogenic Stroke in the Presence of an Atrial Myxoma
Hamed Abbaszadegan, MD; Jeremy Payne, MD, PhD

Introduction:
Strokes are often thought of as an occurrence in patients with risk factors such as long-standing hypertension, hypercholesterolaemia, diabetes mellitus, obesity, age, smoking, and genetics to name a few. It is not as common to see strokes in the younger age population (less than 40 years old), especially in the absence of cardiovascular anomalies, right to left shunting, trauma, or endocarditis. When a stroke occurs in this age group, the work-up is often exhaustive to exclude clotting disorders, autoimmune conditions, and structural defects.

Case Report:
The patient is a 32-year-old African American male with no known PMH who presented to the hospital with sudden onset of mild headache, left-sided weakness, and left-side spatial neglect. During the patient's admission, it was determined that he had an acute right parietal lobe ischemic infarct. Extensive workup did not find a definitive cause, but a right atrial myxoma was incidentally found. There were no clearly visualized patent foramen ovale, however a bubble study suggested a small degree of right to left shunting. No vascular anomaly on MRA imaging was found. Extensive and workup which included coagulation studies, comprehensive drug screening, cultures, autoimmune etiologies, and fluid studies was unremarkable. The patient was discharged to acute rehab with a potentially cryptogenic stroke. Follow-up is to include a repeat transesophageal echo to confirm the myxoma is still present which would then require surgical evaluation for excision.

Discussion:
Often co-morbid diseases, drug use, smoking, and other high risk activities can predispose patients to pro-thrombotic events. This was not the case in our patient. Etiologies to rule out before tagging a patient with a “cryptogenic” title should include structural anomalies of the heart (CT + MR imaging), lipid profile, coagulation studies (factor V Leiden mutation, antithrombin III, lupus anticoagulant, cardiolipin, prothrombin gene mutations, homocysteine), infectious etiologies, and autoimmune etiologies (anti-nuclear antibody, rheumatoid factor). An embolic stroke is no larger than 1 mm is sufficient to cause a clinically significant stroke. Despite no definitive R-R occlusion, it is not impossible to imagine a small piece of the myxoma dislodging from an unseen small shunt.

Annual Stroke rate for age 15-49 = 10.0±1.0/10,000

References:
Pros & Cons of Prior Poster

- Color scheme
- Photos
- Little Text
- Visual Impact
Patient Safety & Quality Improvement Abstract

- Title and Author Information
- Introduction of topic
- Methods
- Results
- Conclusion
- 300 words

- Category focusing on improving patient safety, quality & evaluating patient satisfaction.
Creating an Inpatient Clinic, the Future of Inpatient Medicine
Hamed Abbaszadegan, MD, Ruth Franks, MD, Jordan Coulston, MD, Cheryl O’Malley, Banner Good Samaritan/Phoenix VA Health Care System Internal Medicine Residency Program

INTRODUCTION
With the advent of electronic medical records, bedside rounds have decreased in frequency, and attending physicians are spending a lot of time on computer workstations. This has led to increased patient volume and increased resident work hours. The trend continues to be more demanding.

METHODS
A “team” is comprised of an attending, resident, 3-4 internal medicine house staff, nurse manager, and medical student(s) working 3-4 computer workstations.

RESULTS
- **Prevalence of Current System**: 100% of residents reported using the current system.
- **Prevalence of New System**: 95% of residents reported using the new system.
- **Adherence to Guidelines**: 80% of residents adhered to the guidelines.

DISCUSSION/BARRIERS
- Flow rounds are an effective tool to rationalize the workload of a ward teaching rounds, resulting in earlier discharges and fewer resident work hour violations compared to traditional rounding methods.
- Similarly, the development of an Inpatient Clinic appears feasible, with over half of clinical visits occurring within 15 minutes of predicted start time.
- The resident buy-in was initially limited, but improved as residents individually reduced fever pages from the electronic health record.

Barriers limiting widespread participation include:
- Emergency clinical situations
- Confidence in ancillary staff to communicate urgent needs
- Teaching conferences scheduling
- Role of pre-rounding
- Resident/Attending buy-in
- Quality of bedside-education

CONCLUSION
The inpatient clinic is a bold and innovative idea that may drastically reduce bedside rounds and improve the quality of inpatient care. Transforming team rounds in this manner returns the work of medicine to the bedside, allowing for mindful, patient-centered care.

REFERENCES
Pros & Cons of Prior Poster

- Clean
- Lots of graphs
- Little text
- Organized texts
Recap...

• Types/Categories of Posters:
  – Research Poster
  – Case Presentation Poster
  – Quality Improvement Poster
  – Patient Safety/Satisfaction Poster
Great Poster Elements

- Easy to read/follow
- Attracts viewer’s attention
- Communicates results of investigation

Greatness is a Choice.

Just do it.
Quick Response Code

- QR Code
Poster Arrangement

• Timing:
  – Viewer able to glean message in 3-5 minutes
  – Viewer able to read text in 10 minutes

• Organization
  – Organization similar to scientific article
  – Poster describes findings of research project
How to Construct

• A single PowerPoint slide…
• Set size of single slide (not to exceed 46 inches X 46 inches)
• Use large font for text
• BOLD font (always)
• Check poster in zoom view to see true arrangement
Other points for Construction...

• **Use a template/software program**
  – Internet search “poster template”
  – Power Point format
  – Old poster – delete text, play with background, box/text sizes, format, images, color

• **The rough draft process**
  – 1st draft one month prior to conference
  – Considerations
    • Word count, prose style, grammar, fluidity, figure clarity, spelling, aesthetic appeal
  – Print on letter sized paper to assess layout challenges
Details on Poster Content
Research Poster

• **Title;** 2 lines or less
  – ≥ 72 pt. type, legible at 25 feet
  – Clear, concise, direct

• **Intro;** 200 words or less
  – ≥ 20 pt. type
  – Define the issue
  – Establish the purpose of your work
  – Justify your experimental approach
  – Provide a clear hypothesis

• **Materials and Methods;** approximately 200 words
  – Use figures and tables to illustrate experimental design
  – Use flowcharts to summarize timing of events
  – Include photograph or labeled drawing
  – Outline statistical plan
Research Poster, continued

**Results:** approximately 200 words
- Provide qualitative/descriptive results
- Present analyses that specifically address the hypothesis
- Refer to charts or images

**Discussion:** approximately 300 words
- Remind the viewer of the hypothesis
- Discuss if/why results were conclusive
- Point out relevance of findings to other published work
- Discuss limitations of the work
- Highlight future directions of the research
Research Poster, continued

**Conclusion**: approximately two sentences
- Concise summary
- Reminds viewer of relevance

**References**
- Approximately 5-10 citations
- Standard format

**Acknowledgement**
- Assistance and financial support
Case Presentation Poster

- Title
- Introduction
- Case Presentation:
  - History of Present Illness
  - Hospital Course
  - Family History
  - Social History
  - Labs, Images, Studies
- Discussion
- References
Case Presentation Poster

• **Introduction** – briefly introduce type of condition/disease process – pathogenesis, etiology, microbiology, epidemiology if relevant

• **HPI** – classic academic history and physical. Age of patient, important past medical history, presenting complaint, events leading to presentation

• **Hospital Course** - pertinent (+) and (-) findings on physical exam, work up and treatment plan, involvement of consultants, clinical progress
Case Poster Continued...

- **Family History**
- **Social History**
- **Pertinent Labs**

- **Images**
  - Visual additions attract and inform viewers more effectively than text
  - Details on graphs and photos viewed from 6 ft away
  - Thin gray or black border around photos
  - Digital, high quality photographs - web images have poor printing resolution
Patient Safety & Quality Improvement Poster

- If an intervention/poll was performed on a group – research format
- If attention is being drawn to an issue or concern – vignette format
- Same general guidelines, room for creativity…see example from earlier
Team Approach to Palliation: Do No Harm!

Hamed Abbassadegean, MD; Mona Amini, MD; Masood Kisana, MD
Banner Good Samaritan Medical Center/Carl T. Hayden Veterans Affairs Medical Center

Introduction

Palliation involves easing the severity of pain, non-pain physical symptoms, and improving overall quality of life when the disease process cannot be reversed. The fine line between knowing when to allow natural death, and when to continue aggressive interventions is often skewed. The palliative care team at the Phoenix VA Medical Center has vastly changed the approach to end of life care utilization in the last year by improving utilization by 200%.

Higher health care expenses are utilized during the last year of life and are found to be mostly incurred in the last month of life. The utilization of palliative medicine is an important topic not just regarding health care expense, but is also significant when discussing patient safety when interventions will not change the outcome.

Case Report

Patient is a 66 y/o Male with a 3 month history of progressive dysphagia to solids liquids, and an associated significant weight loss. He was diagnosed with a metastatic esophageal adenocarcinoma with diffuse bony metastases confirmed by PET imaging. His symptom control became unmanageable at home secondary to recurrent hematemesis, fatigue, and anorexia to a point where a decision had to be made between aggressive interventions and allowing for natural death with dignity and comfort. Goals were established to control symptoms as a priority, as the metastatic cancer could not be reversed. By providing optimal pain relief, and relief of non-pain physical symptoms, aggressive organizing interventions were avoided.

Health Care (per capita) Cost Inversely Correlated with Quality of Life Score

Conclusion

Terminal illness cannot be reversed. Once functional status declines to a point of irreversibility, palliation is an appropriate option for patient safety. Utilization through early involvement of palliative care improves quality of life, leads to less aggressive care, and results in longer survival. Research has shown that palliative medicine interventions not only improve survival, but are more effective than active treatment in many situations.

Advanced heart failure with recurrent exacerbations, advanced COPD, as well as cancers should be considered for palliation approaches as symptom management becomes the forefront of care. Families are often most satisfied with the care when they know their loved one has not been allowed to suffer needlessly.

Growth of Hospice Programs in U.S.
1974 to 2009

References

Patients Served by Hospice: 1984 to 2009

Patients Served by Hospice in the U.S.: 1984 to 2009
Judging

- Originality
- Case Presentation Methodology
- Visual Impact
- Interview (presentation)
THANK YOU!

• Contact information:
  Hamed.Abbaszadegan@va.gov