

Visual Rhetoric/Visual Literacy Series

Overview: What Are Visual Rhetoric and Visual Literacy?

The simplest definition for visual rhetoric is how/why visual images communicate meaning. Note that visual rhetoric is not just about superior design and aesthetics but also about how culture and meaning are reflected, communicated, and altered by images. Visual literacy involves all the processes of knowing and responding to a visual image, as well as all the thought that might go into constructing or manipulating an image.

Definition of Genre:

Scientific poster presentations—visual representations of an abstract submitted and accepted to a conference—should include both text and graphics. They should have more information and detail than a written abstract but significantly less than a full scientific paper.

Text:

- Include the original abstract, generally in the top left corner. Unless conference guidelines specify not to include the abstract, do so since this text is what will appear in conference proceedings.
- Keep text between 700 and 800 words for a standard 3-foot-by-5-foot poster. This amount of text provides enough information without appearing crowded.
- Divide the text into parts that match the abstract itself. (These may vary slightly depending on the abstract guidelines—for example, whether “Background” or “Introduction” is the initial section.)
- Use bullet points or paragraph form, depending on which conveys the material more clearly.

Graphics:

- Include no more than eight tables and figures. Restraint in this area will prevent the poster from looking too busy.
- Consider using one or more tables in the Results section—tables arrange data in a way that is easy for the viewer to compare.

Colors:

- Use a white or light-colored background for visual clarity.
- Avoid using more than three additional colors. (Programs like PowerPoint and Microsoft Publisher have color-scheme recommendations.) White, black, blue, red, and yellow (only for graphics) are clearest from a distance.
- Lightly shade every other row in tables to increase readability. Keep color of shading consistent.

Format:

- Place the title along the top of the poster, with author names underneath in a smaller font. Provide degrees for each author and institutional affiliations in a key format using superscript numbers, letters, or symbols. In a separate window, list the corresponding institutions.
- Arrange the information into four columns for a 3-foot-by-5-foot poster, three for smaller posters.
- Put citations in the bottom right corner, at the end of the text.

Sample poster layout: image courtesy of the Duke Clinical Research Institute

SYNERGY

Troponin Elevation After Coronary Artery Bypass Surgery Predicts Major Cardiac Adverse Outcomes in Patients with Non-ST-Segment Elevation Acute Coronary Syndromes: Results from the SYNERGY Trial

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Background and Objective
 Cardiac troponin (Tn) is a highly sensitive marker of myocardial necrosis. However, the clinical significance of Tn elevation in the context of coronary artery bypass grafting (CABG) is not well established. Moreover, because patients with non-ST-segment elevation acute coronary syndromes (NSTE-ACS) often present with baseline Tn elevation—a powerful prognostic marker—it is unknown whether a re-elevation of Tn following CABG has further prognostic value. This analysis sought to evaluate the prognostic role of post-CABG Tn (T) elevation among patients with NSTE-ACS randomized in the SYNERGY trial who underwent CABG during index hospitalization.

Methods
Population
 • 1862 patients undergoing CABG during the index hospitalization.
Inclusion criteria
 • Baseline elevation of Tn or creatine kinase (CK-MB) ($n=63$ excluded)
 • Troponin obtained prior to and during the 24 hours following CABG ($n=3303$ excluded)
 • Normal or stable pre-CABG values of Tn, if stable pre-CABG Tn value was defined as decreasing or not increasing Tn values in at least 2 samples obtained ≥ 2 hours apart ($n=186$ excluded)
Variables of Interest
 • Ratio of 24-hour post-CABG Tn peak to ULN (Tn ratio)
 • Relative Tn change from the last pre-CABG Tn value to the 24-hour post-CABG Tn peak (percent Tn change)
Study outcomes
 • 30-day death, myocardial infarction (MI), recurrent ischemia requiring urgent revascularization (RIUS), ischemia-related QI, or QI/MI.
 • 6-month composite of death, MI, RIUS, or other coronary revascularization
 • 1-year death
Statistical analysis
 • Descriptive variables reported by quartiles of Tn ratio
 • Cox model adjusted for P-VALUE risk model variables, creatinine clearance, post-operative study drug therapy, and angiographic features
 • Troponin ratio and percent change entered separately, as continuous variables

Results
 • The final population consisted of 630 patients. Baseline and angiographic characteristics and unadjusted event rates by Tn ratio are shown in Tables 1 and 2.
 • In the adjusted models, Tn ratio was significantly associated with 30-day and 6-month composite outcomes, and with 1-year death (Table 3, Figure).
 • In the adjusted models, Tn change was significantly associated with 30-day and 6-month composite outcomes, whereas it was not a significant predictor of 1-year death (Table 3).

Table 1. Baseline and procedural characteristics by post-CABG troponin ratio

	Quartiles of Peak Tn Elevation after CABG, \times ULN			
	<T2	T2-16.6	16.6-42.0	>42.0
	(n=157)	(n=156)	(n=157)	(n=160)
Age (yrs)	66	69	67	67
	(60, 73)	(61, 73)	(61, 75)	(62, 75)
Male sex	66%	75%	78%	78%
Diabetes	35%	33%	37%	31%
Prior infarction	22%	24%	20%	27%
Prior CABG	6%	4%	3%	6%
Prior PCI	14%	10%	12%	14%
Prior angina	50%	44%	45%	49%
Systolic BP (mm Hg)	132	129	130	128
	(119, 144)	(112, 140)	(118, 141)	(114, 141)
Heart rate (bpm)	71	74	74	70
	(64, 84)	(65, 85)	(66, 82)	(63, 83)
ST-depression	59%	56%	64%	59%
Heart failure	20%	18%	22%	16%
Creatinine clearance (mL/min)	77	78	75	73
	(56, 104)	(56, 97)	(55, 98)	(55, 93)
Procedural features				
Dissected vessels				
1	7%	6%	5%	2%
2	15%	20%	14%	16%
3	79%	72%	81%	82%
Time to CABG (min)	137	108	79	66
	(14, 228)	(47, 192)	(40, 173)	(45, 163)
Urgent CABG	33%	38%	18%	23%
Unsuccessful CABG	7%	18%	14%	0%

Table 2. Unadjusted event rates by post-CABG troponin ratio

	Quartiles of Peak Tn Elevation after CABG, \times ULN			
	<T2	T2-16.6	16.6-42.0	>42.0
	(n=157)	(n=156)	(n=157)	(n=160)
30-day outcomes				
Composite	21.7%	35.3%	44.6%	56.9%
Death	2.5%	5.1%	3.8%	5.0%
Myocardial infarction	19.1%	30.8%	39.3%	50.6%
RIUS	1.3%	4.5%	4.5%	2.5%
6-month outcomes				
Composite	24.2%	38.5%	47.8%	58.4%
Death	4.5%	7.7%	8.3%	7.5%
Myocardial infarction	19.1%	31.4%	36.3%	50.6%
RIUS	1.9%	4.5%	5.1%	3.8%
Other coronary revascularization	1.2%	1.3%	1.9%	1.3%
1-year outcome				
Death	4.5%	9.6%	8.3%	8.8%

Table 3. Adjusted hazard ratios of 30-day, 6-month, and 1-year outcomes according to troponin ratio and troponin percent change

	β^a	Hazard ratio (95% CI)	P value
30-day composite outcome*			
Troponin ratio† (SD \times ULN)			
<T2 \times ULN	38.1	1.988 (1.270-3.099)	<0.0001
>T2 \times ULN	115.5	1.044 (1.019-1.071)	0.0007
Troponin change† (10%)			
<350%	7.3	1.024 (1.007-1.041)	0.0067
>350%	12.4	1.006 (1.002-1.009)	0.0004
6-month composite outcome*			
Troponin ratio† (SD \times ULN)			
<T2 \times ULN	55.0	1.933 (1.295-3.003)	0.0005
>T2 \times ULN	159.0	1.041 (1.025-1.067)	0.0006
Troponin change† (10%)			
<350%	4.6	1.018 (1.002-1.034)	0.0313
>350%	10.8	1.006 (1.002-1.008)	0.0003
1-year death*			
Troponin ratio† (SD \times ULN)	5.2	1.009 (1.001-1.018)	0.0225
Troponin change† (10%)	0.1	0.999 (0.993-1.006)	0.8368

Figure. Kaplan-Meier curves for 1-year death for patients with Tn ratio equal or lower than the 50th percentile (blue line) and for patients with Tn ratio greater than the 50th percentile (red line). The Tn ratio 50th percentile value is 16.6.

Conclusion
 This analysis shows that, in NSTE-ACS patients presenting with elevated markers of myocardial necrosis, a peri-procedural myocardial damage detected by Tn re-elevation following CABG predicts the occurrence of subsequent ischemic complications. Peak post-CABG Tn ratio is also associated with the risk of long-term mortality.

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Recommended Resources:

<http://www.swarthmore.edu/NatSci/cpurin1/posteradvice.htm>

Detailed advice on designing posters in the sciences, including a list of common poster pitfalls; developed by biologist Colin Purrington of Swarthmore College.

<http://people.eku.edu/ritchisong/posterpres.html>

A highly visual guide to assembling poster presentations, developed by biologist Gary Ritchison at Eastern Kentucky University.

<http://phdposters.com/gallery.php>

A portfolio of posters designed by the company PhD Posters. Consider the variety and the efficacy of these visuals.

Handouts in the Visual Rhetoric/Visual Literacy Series

- Overview: Visual Rhetoric/Visual Literacy
- Writing about Comics and Graphic Novels
- Writing about Film
- Writing about Paintings
- Writing about Photography
- Writing with Maps
- Using PowerPoint and Keynote Effectively
- Creating Scientific Poster Presentations
- Crafting and Evaluating Web Sites