ASSOCIATION BETWEEN TOTAL PLASMA CHOLESTEROL IN ACUTE CORONARY SYNDROME AND 17 YEARS FOLLOW-UP MORTALITY

(*ABC is acronym for Adria, Bassano, Conegliano, and Padova Hospitals)

G. Berton1, P.Michelazzo4, R. Cordiano2, F. Cavuto4, S. Petucco4, M. Pasquinucci1, M. Centa1, G. Allocca1 , S. Cuckon 1, A. Cati1 – (1) Conegliano General Hospital, Conegliano, Italy, (2) Adria General Hospital, Adria, Italy, (3) Bassano General Hospital, Bassano, Italy

The ABC-3 study on Acute Coronary Sindrome is an ongoing, prospective investigation designed to reflect, as closely as possible, an unbiased population of patients with ACS.

AIM OF THE STUDY

To investigate the association between plasma total cholesterol in patients with acute coronary syndrome (ACS) and long term all-cause mortality after 17 years of follow-up

DESIGN and METHODS

- Prospective cohort study
- 17 years follow up
- 3 coronary care units
- 529 patients with ACS
- Cholesterol was used as dichotomic variable for baseline analysis, and as a continuous variable in the survival analysis.
- All data obtained within 7 days of hospitalization
- We used Cox regression models to assess the risk of all-causes 17-years mortality.
- All analyses were made with STATA 14

Values are expressed as median (IQ) or proportions

Total	
N=529	
Age (median)	67 (IQ 59-75
Female gender	30%
NSTEMI	37%
Cholesterol (median level)	200 (IQ 175-234)mg/dL

RESULTS

Total	Lower chol.level	Higher chol level	p
N=529			
Age (median)			0.09
Female gender			0.06
hypertension			0.35
Diabetes			0.15
Smoking habit			0.92
Blood glucose			0.31
BMI			0.01
Blood triglycerides			0.0001
plasma HDL			p=0.001

SURVIVING ANALYSIS

Cox surviving analysis, cholesterol levels showed an inverse risk association with all-cause mortality, Z value (regression coefficient to SE ratio) =-3.90, p<0.0001; at age, gender adjusted level, Z value =-2.08; p=0.02; after full adjustment, Z value=-2.06, p=0.03.

Regione Veneto - ABC Study - 17 years follow up after ACS
All-cause mortality in 634 patients
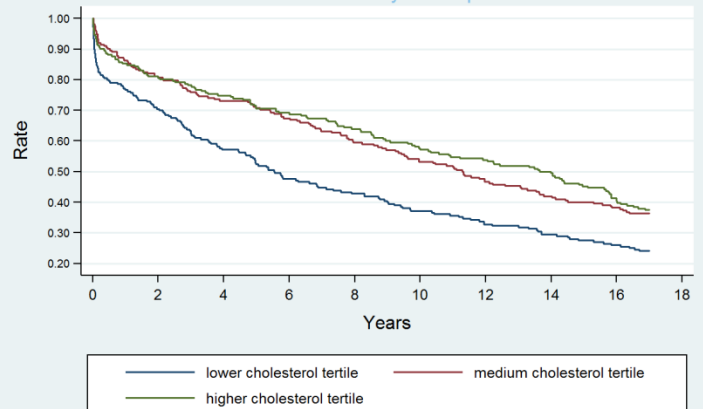
panel a

```
        failure _d:  ex17censor == 1
  analysis time _t:  stTIMEexit17years

Iteration 0:   log likelihood = -2547.0478
Iteration 1:   log likelihood = -2539.2258
Iteration 2:   log likelihood = -2539.2255
Refining estimates:
Iteration 0:   log likelihood = -2539.2255

Cox regression -- Breslow method for ties

No. of subjects =          633            Number of obs    =        633
No. of failures =          425
Time at risk    =  6017.406027
                                          LR chi2(1)       =      15.64
Log likelihood  =   -2539.2255            Prob > chi2      =     0.0001

-------------------------------------------------------------------------
     _t | Haz. Ratio  Std. Err.      z    P>|z|    [95% Conf. Interval]
-------------------------------------------------------------------------
 ct1t634 | .7864175   .047851     -3.95   0.000    .6980078     .8860251
```

```
        failure _d:  ex17censor == 1
  analysis time _t:  stTIMEexit17years

Iteration 0:   log likelihood = -2547.0478
Iteration 1:   log likelihood = -2529.2007
Iteration 2:   log likelihood = -2529.1999
Refining estimates:
Iteration 0:   log likelihood = -2529.1999

Cox regression -- Breslow method for ties

No. of subjects =          633            Number of obs    =        633
No. of failures =          425
Time at risk    =  6017.406027
                                          LR chi2(2)       =      35.70
Log likelihood  =   -2529.1999            Prob > chi2      =     0.0000

-------------------------------------------------------------------------
     _t | Haz. Ratio  Std. Err.      z    P>|z|    [95% Conf. Interval]
-------------------------------------------------------------------------
 ct1t634 | .7916922   .0483128    -3.83   0.000    .7024444     .8922792
       i | 1.547225   .1512731     4.46   0.000    1.277412    1.874027
```

```
        failure _d:  ex17censor == 1
  analysis time _t:  stTIMEexit17years

Iteration 0:   log likelihood = -2547.0478
Iteration 1:   log likelihood = -2375.6332
Iteration 2:   log likelihood = -2368.7998
Iteration 3:   log likelihood = -2368.7917
Iteration 4:   log likelihood = -2368.7917
Refining estimates:
Iteration 0:   log likelihood = -2368.7917

Cox regression -- Breslow method for ties

No. of subjects =          633            Number of obs    =        633
No. of failures =          425
Time at risk    =  6017.406027
                                          LR chi2(6)       =     356.51
Log likelihood  =   -2368.7917            Prob > chi2      =     0.0000

-------------------------------------------------------------------------
     _t | Haz. Ratio  Std. Err.      z    P>|z|    [95% Conf. Interval]
-------------------------------------------------------------------------
 ct1t634 | .8661976   .0537667    -2.31   0.021    .7669748     .9782567
    sex01 | .9507356   .124014    -0.39   0.699    .7362562    1.227695
      eta | 1.094772   .006514    15.22   0.000    1.082079    1.107614
   fumo01 | 1.168239   .1477259    1.23   0.219    .911792     1.496813
        i | 1.015195   .1055772    0.15   0.885    .8279939    1.244721
        d | 1.758171   .1898362    5.23   0.000    1.422832    2.172544
```

CONCLUSION

This preliminary study, based on a 17-year follow-up after ACS, indicates that there is an inverse independent association between levels of cholesterol during ACS and long-term mortality. Caution and further long-term studies indeed need.