

# CA and Cancer Incidence: Cohort Studies

- Hagmar et al. (1994): 3,182 individuals free of cancer at the time of CA analyses. Follow up: 1970-1991. Cancer cases 85.
- Trichotomization of CA frequencies (percentiles): (low:1-33; medium: 34-66; high: 67-100).
- High frequencies of CA: Standardized incidence ratio of cancer (SIR) 2.1, 95% CI 1.5-2.8. Trend of SIRs by the frequency of CA highly significant ( $p = 0.0009$ )

# CA and Cancer Mortality: Cohort Studies

- **Bonassi et al. (1995)**: 1,455 individuals, follow up 1969-1994. **Cancer deaths 44**
- Standardized mortality ratio (SMR) low: **0.8 (0.7-1.6)**, medium: **1.8 (1.0-2.9)**, high: **1.8 (1.1-2.8)**
- Values for medium and high percentiles are significant

# CA Types and Cancer Incidence

- Rössner et al. (2005)
- Number of individuals: 11,834
- Follow up for cancer incidence and mortality: 1975-2000
- Significant association between overall cancer incidence and CA of chromosome type (breaks, markers, rings, dicentrics)
- RR for high versus low CA frequency 1.24, 95% CI 1.03-1.50
- No association with CA of chromatid type (breaks, exchanges)

# CA Types and Cancer Incidence

- **Boffetta et al. (2007)**
- Number of individuals: 6,430
- Cancer cases: 224
- **Medium CA level:** Relative risk (RR) of cancer 1.57 (95 % CI 1.08-2.28)
- **High CA level:** RR of cancer 1.75 (95 % CI 1.20-2.55)
- High CA level: **RR for chromosome type CA** 1.47 (95 % CI: 1.11-1.93)
- High CA level: **RR for chromatid type CA** 1.09 (95 % CI: 0.82-1.45)