

“The utility of rapid case ascertainment
for a population-based case control study
on Hodgkin’s lymphoma”

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Development of our Rapid Case Identification Capability

- Previous work with the Massachusetts Cancer Registry
- Expansion of the Dana Farber/Harvard Cancer Center provided venue for rapid case core
- Our NCI program project (“HL and the Epstein Barr virus”) provided the practicum for getting rapid case to field

Epidemiologic Analysis of the EBV and HL

Study Design: Two companion population-based case-control studies in greater Boston area and the state of Connecticut

Cases: Parallel rapid case identification – about 60 hospitals

Controls: MA - Town Book controls

CN - Random digit dialing and Medicare lists

Data-gathering

- Telephone interviewing based at Harvard
- Each site handled pathology block retrieval and phlebotomy (cases)
- DNA obtained from population controls by mail (“swish and spit”) via Harvard

Yale Collaborators

- Epidemiology

Tong Zhang, ScD co-PI

Patti Owens

- RCA

Judith Fine

Rajni Mehta

The Role of Yale RCA for our Rapid Case Identification Core

- Model
- Mentoring

Utility of Rapid Case Identification to Researchers

- Reduces cost
 - Reduces staff, training, supervision
- Builds on existing relationships with hospitals
 - MD sponsors
 - IRBs

Scientific Utility of using Multiple Sites

- Increases statistical power
- Comparability of data provides verification of internal validity of new findings
 - Example : Aspirin finding

Background

- HL involves the chronic expression of multiple inflammatory mediators
- NF- κ B $\uparrow\uparrow$ inflammatory mediators
- In HL, NF- κ B $\uparrow\uparrow$ in the cancer cells and appears required for survival and proliferation
- In HL, \uparrow prostaglandins \uparrow inflammatory response and cell division (Cox 1& 2)

Background -2

- Aspirin ↓ NF- κ B by binding to IKK- α in a dose-dependent manner
- Aspirin ↓ COX 1 & 2 by irreversible binding
- These actions are specific to aspirin among commonly used analgesics

Hypotheses

- Aspirin use is negatively associated with HL
- This association is specific to aspirin among analgesics

Study Population

- Population-based case-control study
 - Greater Boston and State of Connecticut
- Cases: 15-79 at diagnosis (8/1997-12/2000), HIV-negative, alive (N= 507)
- Population Controls: Frequency matched by age group, sex, and state (N= 470)

Data on Analgesics

- Subjects interviewed by telephone
 - average frequency of aspirin, tylenol/acetaminophen, ibuprofen/other NSAID use during the past 5 years
 - composite variable
 - “regular use” = ≥ 2 times weekly
 - “non-users” = < 2 times weekly

Prevalence of reported medication use

	Aspirin use		Acetaminophen use		Ibuprofen use	
	Yes	No	Yes	No	Yes	No
Cases (%)	57 (11%)	450 (89%)	130 (26%)	377 (74%)	109 (21%)	398 (79%)
Controls (%)	82 (17%)	388 (83%)	85 (18%)	385 (82%)	105 (22%)	365 (78%)
	139	838	215	762	214	763

ORs* for reported medication use associated with HL

- Aspirin: 0.58 (0.40-0.84)
- Acetaminophen: 1.7 (1.2-2.4)
- Ibuprofen: 0.90 (0.65-1.3)
 - *(adjusted for age, sex, state of residence, and use of other medications)

Internal Validity: Aspirin

- Consistent by age, gender, other medication use
- Consistent by **state**:

Massachusetts: $OR_{ADJ} = 0.54 (0.33-0.91)$

Connecticut: $OR_{ADJ} = 0.62 (0.38-1.00)$

Internal Validity: Acetaminophen

- Consistent by age, gender, other medication use
- Not consistent by **state**:

Massachusetts: $OR_{ADJ} = 2.33 (1.54-3.55)$

Connecticut: $OR_{ADJ} = 1.29 (0.85-1.96)$

Collaborators

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