

GInAS and pharmacovigilance

Insights derived from additional substance information

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Research Engineer



– Building a global safety culture

Case report from 2005

Report of Suspected Adverse Drug Reaction
including Birth Defects **224289**

(Note: Identities of Reporter, Patient and Institution will remain Confidential)

Patient (Initials or Record # only) Age Sex Weight Height
05 DEC 2006 55 M 80 168

Adverse Reaction Description: **DESC** Date of Onset of Reaction: 29/11/06
Patient with a **NON ST ELEVATION MI**
HAD DIAGNOSTIC ANGIOGRAM SHOWING
SEVERE STENOSIS IN LAD.
THE SAME DAY HAD PCI TO LAD DURING
WHICH EXPERIENCED PROFOUND AND SUSTAINED
HYOTENSION NOT BELIEVED WITH ADAMINE
6mg (several 0.5mg boluses) AND IABP. IMPROVED
AFTER HYDROCORISONE 200mg + PHENERGAN.
AFTER HYDROCORISONE 200mg + PHENERGAN
GIVEN. **?? ALLERGIC REACTION TO CONTRAST**
(ISOVUE 370)

All Drug Therapy Prior to Reaction (Asterisk Suspected Drug(s) (please use trade names)	Daily Dosage and Route	Date Begun	Date Stopped	Reason for Use
ASPIRIN	300mg o	29/11/06	—	NSSTEMI
CLOPIROGREL	300mg o	29/11/06	—	NSSTEMI
TENAZEPAN	10mg o	29/11/06	—	SEDATION
TINIDAZOLE	1g IV	29/11/06	29/11/06	NSSTEMI
ADAMINE	2mg IV	29/11/06	29/11/06	SEDATION
AMNIOCLIQUE	90mg IV	29/11/06	29/11/06	ANGIOGRAPHY
ISOVUE 370	—	29/11/06	29/11/06	ANGIOGRAPHY

Treatment (of reaction): **ADAMINE, HYDROCORISONE, PHENERGAN.**

Outcome: Recovered ☒ Not Yet Recovered ☐ Unknown ☐ Fatal ☐ Date of Death: —

Sequelae: No ☒ Yes ☐ (describe) **MYOCARDIAL INFARCTION**

Comments (eg. relevant history, allergies, previous exposure to this drug):
NO KNOWN ALLERGIES BEFORE THE EPISODE.
HAD ANGIOGRAM IN ANOTHER HOSPITAL.
THEN PCI SAME DAY. REACTION DURING
PCI

Reporting Doctor, Pharmacist, etc.: **POSS**
Name: [REDACTED]
Address: [REDACTED]
Signature: [REDACTED] 30/11/06

Adverse drug reactions

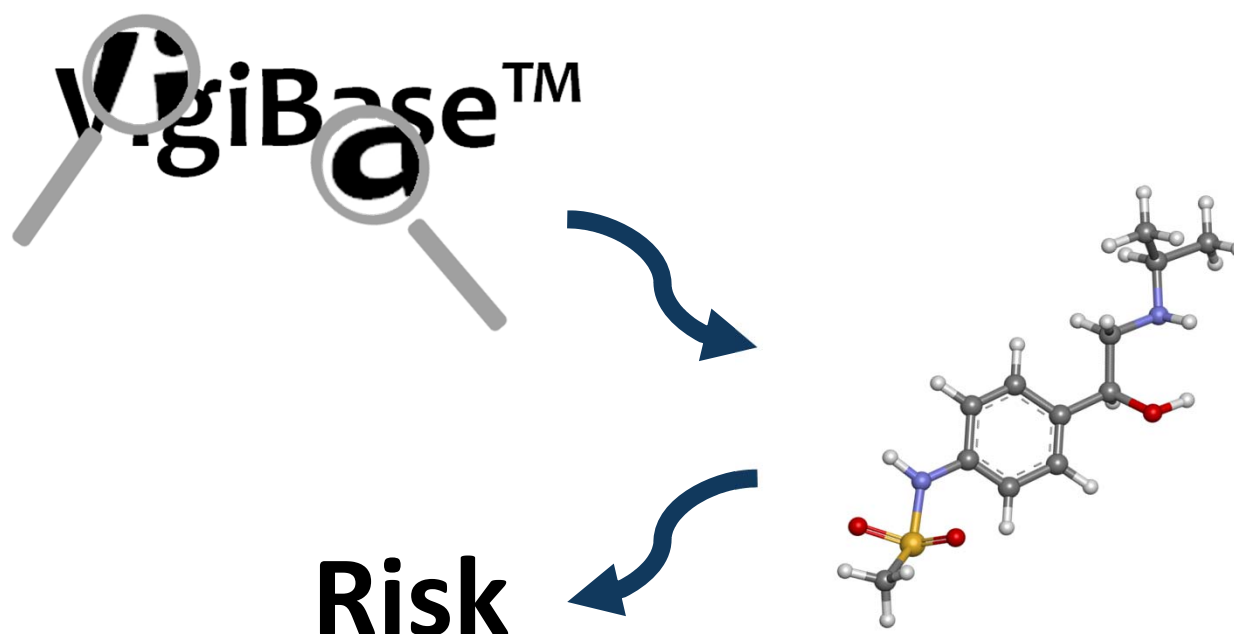
Reported information on a **possible causal relationship** between an **adverse event** and a **drug**,

the relationship being **unknown** or **incompletely documented** previously.

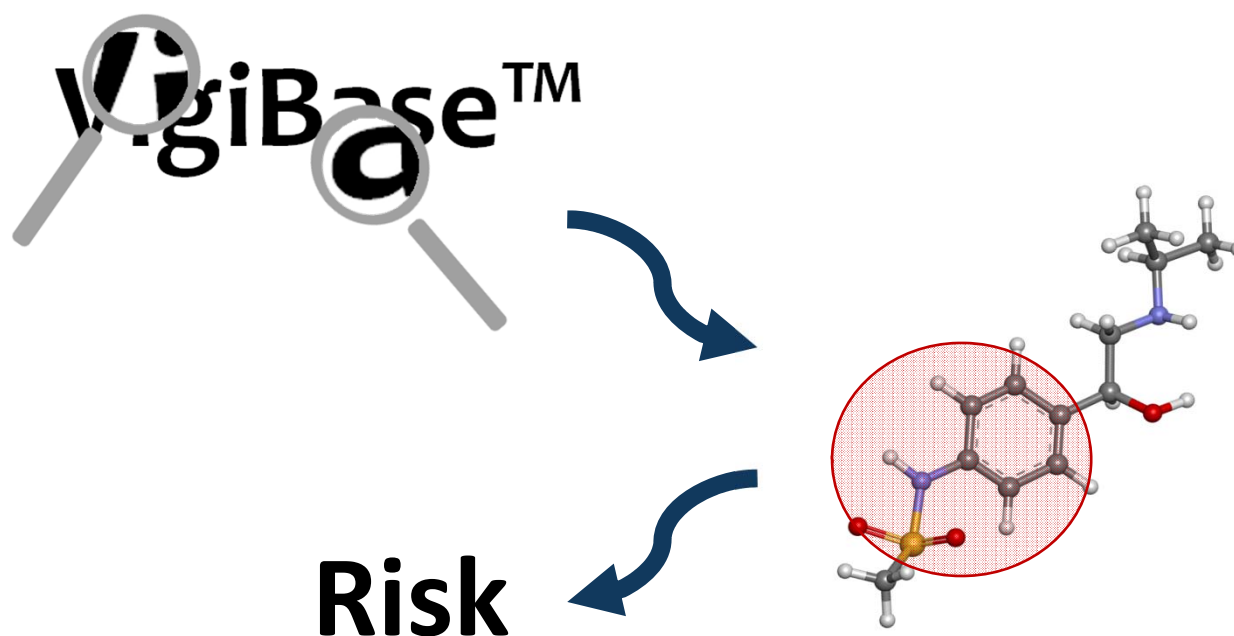
Where do we start?



Identify structure associated with risk



Identify structure associated with risk



Acknowledgment

- Collaboration between Uppsala Monitoring Centre and University of North Carolina, Eshelman School of Pharmacy

JAMIA publication

Accepted
but not published

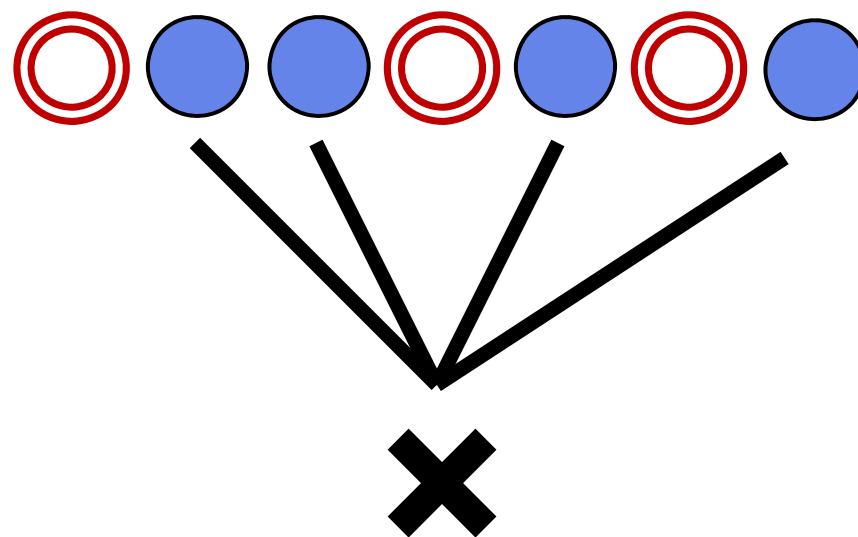
Case study

Stevens-Johnson Syndrome

Study design

Positive controls

● 194 Drugs associated with
Stevens-Johnson
Syndrome in Vigibase



Study design

Negative controls

○ 170

Drugs **not** associated with
Stevens-Johnson
Syndrome in Vigibase

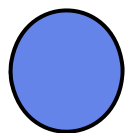
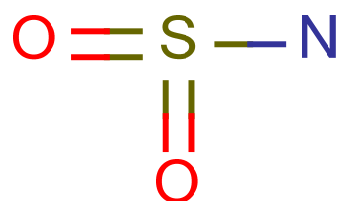
No reports with SJS

or

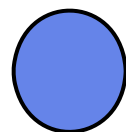
Significantly fewer
reports with SJS than
in Vigibase overall

Study results

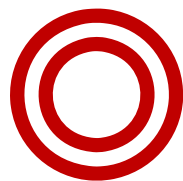
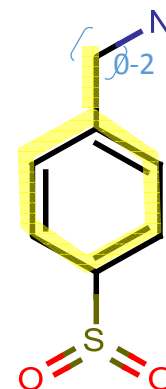
Sulfonamides vs Sulfonyl arylamines



29



21



5



0

Study results

Sulfonyl arylamines

Not All Sulfa Drugs Are Created Equal

Steven M Toler and Ignacio Rodriguez

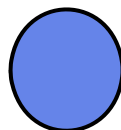
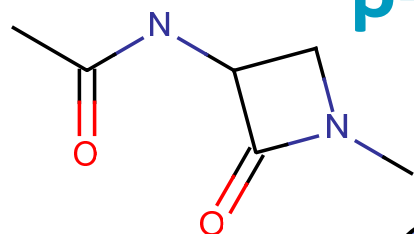


'Sulfur allergy' label is misleading

William B Smith, Senior Consultant, Clinical Immunology and Allergy, Royal Adelaide Hospital, Adelaide; and Constance H Katelaris, Professor, Clinical Immunology and Allergy, University of Western Sydney

Study results

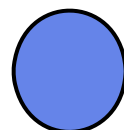
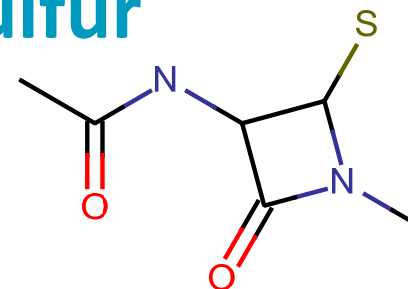
β -lactam vs β -lactam with sulfur



25



1



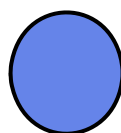
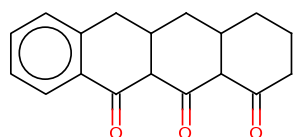
24



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Study results

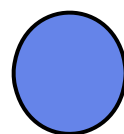
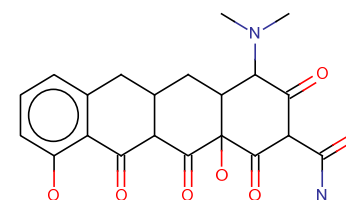
Tetracyclines vs Tetracyclines with N



6



3



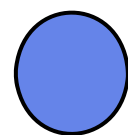
6



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Deliverable

Predictive model



194



-CH₂N

S bound to 3
other atoms

Average
molecular
weight



170



CH₂-CH₂

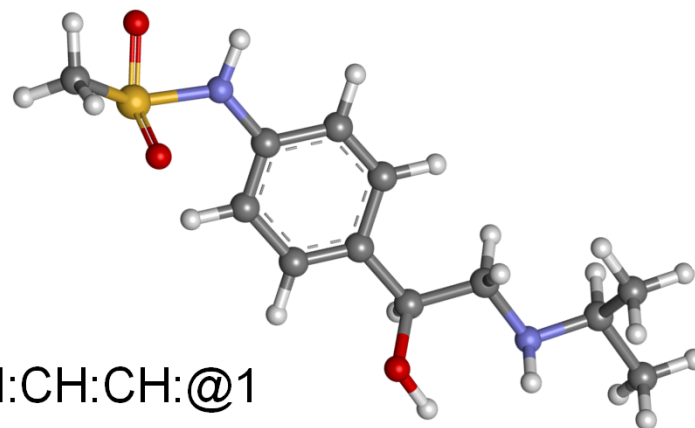
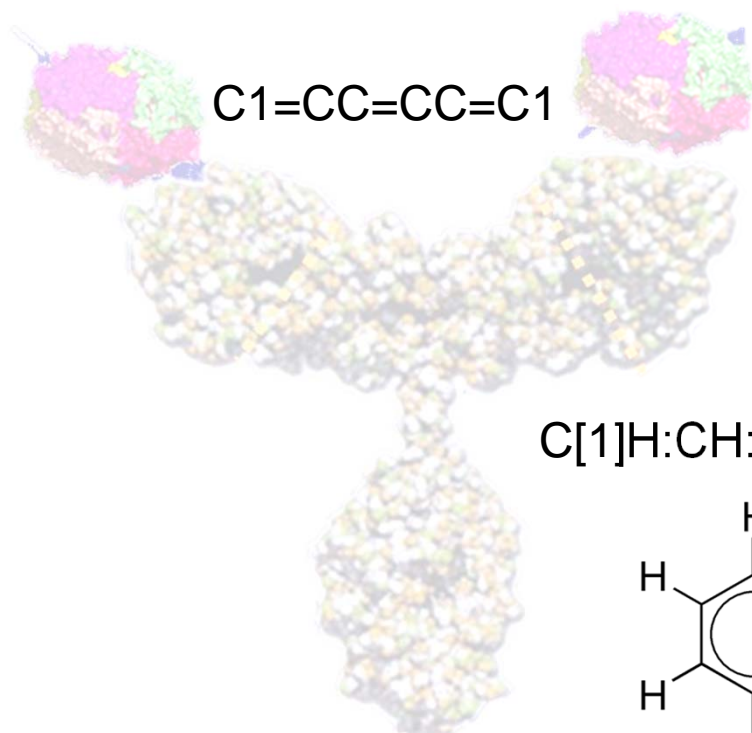
N-O

Number of
hydrogen
atoms

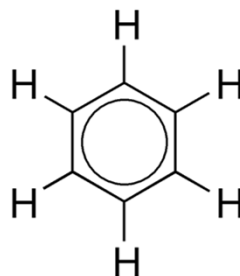
NH₂

Where would GInAS help

Easy access to chemical structure



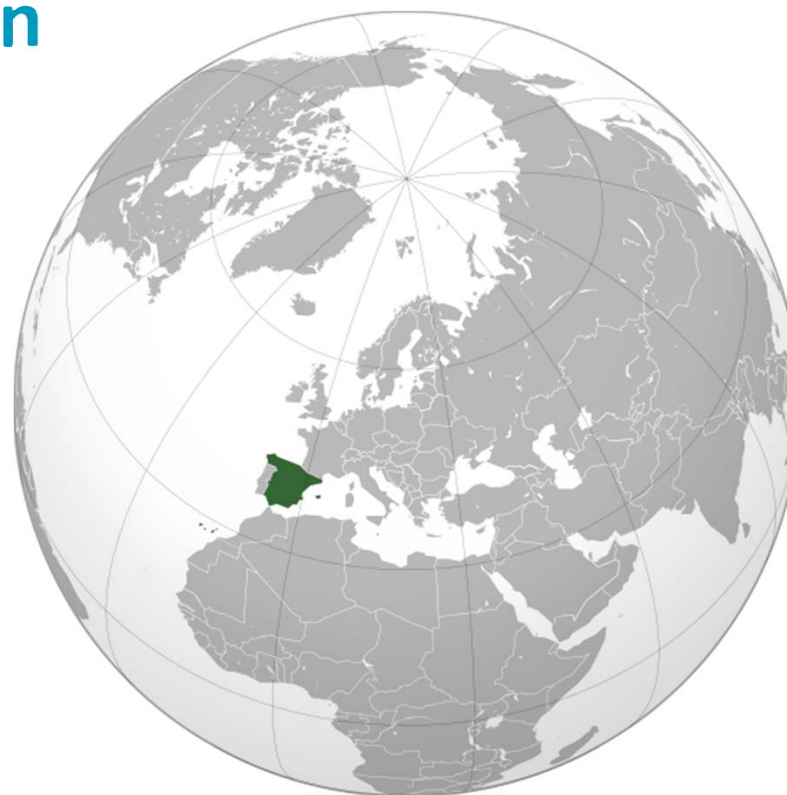
C[1]H:CH:CH:CH:CH:CH:@1



What can we use it for?

Levothyroxine in Spain

MedDRA PTs
Drug ineffective
Therapeutic product ineffective
Drug effect decreased
Drug effect delayed
Drug effect increased
Drug effect prolonged
No therapeutic response
Therapeutic response decreased
Therapeutic response delayed
Therapeutic response prolonged
Therapeutic response increased
Therapeutic response unexpected
Therapeutic response unexpected with drug substitution
Product measured potency issue
Product formulation issue
Product quality issue
Product label issue
Physical product label issue
Product lot number issue
Product barcode issue
Product identification number issue
Product packaging quantity issue
Poor quality drug administered
Unintended pregnancy

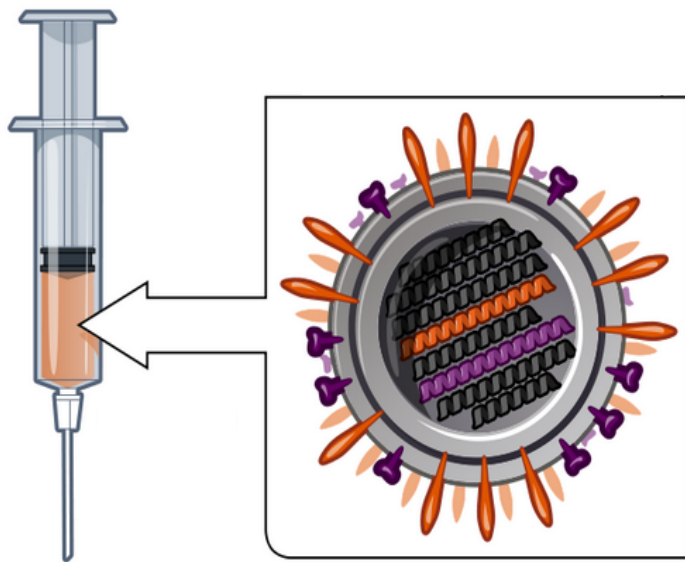


What can we use it for?

Vaccines

What can we use it for?

Rabies Vaccines



Erythema Multiforme



[illegible]





– Building a global safety culture

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A WHO Collaborating Centre



WHO Collaborating Centre for
International Drug Monitoring

One goal

In our role as a WHO Collaborating Centre, we adhere to WHO policies and work in close liaison with WHO headquarters. We provide scientific leadership and operational support to the WHO Programme for International Drug Monitoring. We share the WHO's goal of better health for all, but are organisationally and professionally distinct from the WHO itself.