MRSA in Holland – What is Behind the Success

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MRSA situations in Holland:
What is behind the success?

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INFECTION CONTROL HISTORY IN THE NETHERLANDS

- 1660 Anthony van Leeuwenhoek (microscope)
- 1798 State Inspectorate of Health
- 1903 TB Control
- 1946 Antibiotic (only by prescription)
- 1959 First National I.C. Conference
- 1966 National Guidelines Infection Prevention
- 1973 VHIG: Dutch Association Infection Control Professionals
- 1981 WIP –National Working Party Infection Prevention
- 1992 Health Inspectorate: MRSA Bulletin
- 1996 SWAB - Working Party Antibiotics Policy ⟹ EARSS

MRSA

- Methicilline resistant *Staphylococcus aureus*
- Multi-resistant *Staphylococcus aureus*

RISK FACTORS FOR DEVELOPING MRSA INFECTIONS

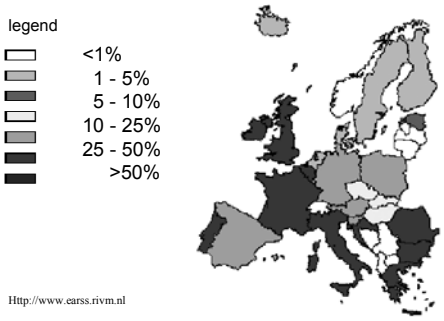
- intensive care treatment
- three or more antibiotics
- pressure ulcers
- surgical wounds
- nasogastric and/or endotracheal tubes
- drains
- urinary or intravenous catheterization

Contamination Risks

EMERGENCE OF MRSA IN EUROPE

1961: UK
1965: France
1968: Denmark
1974: Ireland
1975: Switzerland
1978: Greece
1980: Belgium
1986: Netherlands

Proportion of MRSA isolations in participating countries in 2002 © EARSS



Http://www.earss.rivm.nl

Search & destroy the way to go

DETECTION

- Hospital
- Outpatient
- G.P.

SEARCH & DESTROY STRATEGY

A patient transferred from:

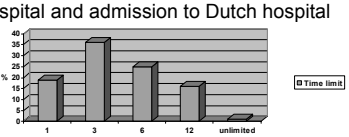
- a hospital or nursing home where MRSA is present,

- or from a foreign hospital who*:*

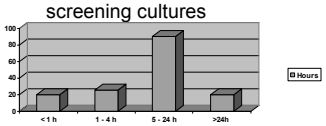
- has been operated on
- has drains or catheters
- was/is intubated
- has been hospitalised more than 24 hrs
- has open wounds
- has possible sources of infection, like abscesses
- are confirmed carriers of MRSA

DIFFERENCE (1999)

Time limit between discharge foreign hospital and admission to Dutch hospital



Time between 1st and 2nd set of screening cultures



SEARCH & DESTROY STRATEGY

Strict isolation

- in single room (!)
- handhygiene
- nose-face mask, cap, gown and gloves

Interventions postponed if possible

MRSA screening of patient and HCW

- nares and throat, perineum, wounds and urine (if catheter present)

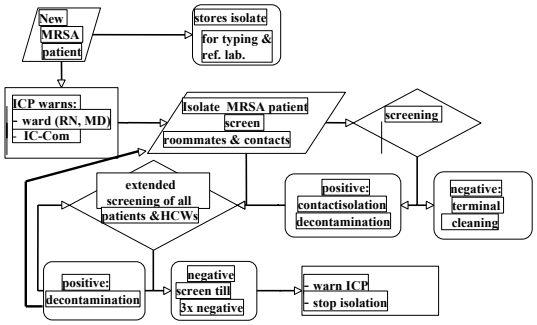
List of contacts

- HCW and roommates screening if patient found MRSA positive

SEARCH & DESTROY IS TEAMWORK……

It only works
when all players have the same goal.

Proceeding when MRSA is detected



HCW's excluded from contact MRSA patient:

- eczema
- found to be MRSA positive sent on sick leave till:
  - decolonisation
  - eradication/treatment
- MRSA carrier → out of work

DECOLONIZATION OF MRSA

- mupirocin in anterior nares (or perineum)
- 4% chlorhexidine or betadine body and hair washes/ showering during consecutive days
- sometimes local betadine for skin breaks
- daily clean clothing
- daily clean bed linen
- wash/ steam cushion, blanket or quilt

REASONS FOR FAILING (DECOLONISATION)

- patients incapable to follow instructions (at home)
- break in skin (ulcer, eczema, etc.)
- permanent carrier?
- resistance development
- wrong treatment regiment
  - with regard to drug and duration

HCW's (DOCTORS) PROBLEMS

a lot of "dis", "uns" and "ins"

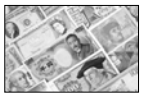
- carelessness
- denial
- disbelief
- disorganisation
- fear (to be found positive)
- foolishness
- ignorance
- inattentive
- inconvenience for patient
- inexperienced
- negligent
- ostrich policy
- rebelliousness
- regardless
- unaquaintance
- unconscious
- underestimating
- unfamiliar with protocols
- unnoticed
- unpleasant measures
- unskilled staff
- unwillingness

MRSA control = fire fighting

Go for it all the way …..

EVERYTHING ELSE….

Just costs a lot of money,



might add to the fire,

and you still get hurt!

CONTROL OF EPIDEMIC MRSA

- strict isolation & cohorting
- weekly screening of contacts (ward patients & HCWs)
  - when patients were infected or colonised
  - all possible contacts during complete stay of source
- intra - and inter-institutional communication
- decolonization
- flagging of records MRSA positive patients
- screening & isolation at readmission

Nicolle et al, Infect Control Hosp Epidemiol 1999; 20:202

STRICT ISOLATION PRECAUTIONS

- Written procedures.
- Individual room with negative airpressure, or cohorting.
- Strict isolation of known carriers and transferred patients.
- Gloves when direct contact.
- Disposable gown.
- Mask: direct and indirect prevention.
- Cap: direct and indirect prevention.
- Removal of linen and waste as 'contaminated'.

HAND HYGIENE

risk of spread: 80%

- Hospital - wide programme
- Alcohol based hand disinfection
- Supervision, surveillance and control guidelines
- Education and promotion
- Optimal facilities
- Medical and nursing staff must serve as a model

DUST serves as a reservoir

MRSA CLEAN TEAM

Some HCW's believe that travelling from patients around the globe may jeopardise our success of the S&D program

Why fight MRSA?

Infections with MRSA cause:

- longer hospital stay
- more costs
- live threatening infections
- high mortality
- avert the possibility to all available antibiotics
- higher use Vancomycin leads to increase prevalence VRE

MRSA will never be solved by introduction new antibiotics

Factors for success

- Communication - local
  - national
- Interdisciplinary teamwork
- Control of cleaning/ disinfection
- Rising awareness
- Education

MRSA IN THE NETHERLANDS

- Low prevalence (<1%)
  MRSA "exclusively" from foreign counties
  no MRSA in community
- Search & destroy strategy
- Changing epidemiology 1998
  "Dutch source"increasing prevalence

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