

# Children with a petechial rash and fever - Can we improve compliance with a management algorithm?

Rishi Patel<sup>1,2</sup> and Alistair Thomson<sup>2</sup>

<sup>1</sup>Manchester Medical School and <sup>2</sup>Paediatric Department, Mid-Cheshire Hospitals NHS Trust, Leighton Hospital, Crewe, CW1 4QJ

## Introduction

- Meningococcal disease (MCD) is a significant cause of morbidity and mortality in children
- MCD can present with vague symptoms similar to more common viral illnesses
- A non-blanching petechial rash can develop early in MCD and viral illness
- 11% of children with a petechial rash eventually prove to have MCD

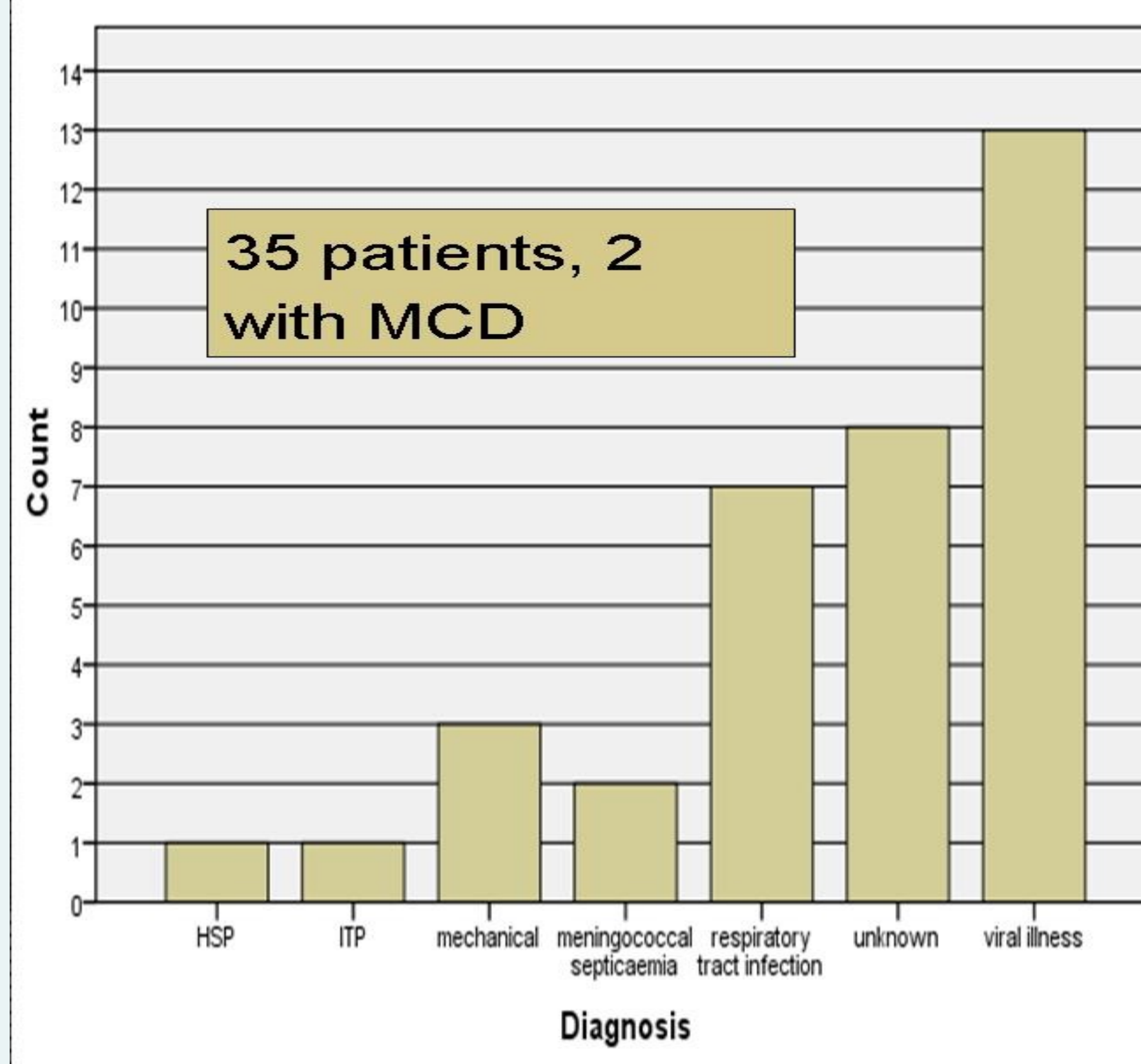


- Riordan's algorithm (2001) helps identify children with MCD

## Methods

- Children ≤ 16 years, seen with fever ≥37.5°C and non-blanching rash
- Data collected retrospectively for 46 weeks, and prospectively for 6 weeks
- Identified by ICD-10 codes [Rash and Non Specific Skin Eruption and Meningococcal Septicaemia] and on ward rounds
- Algorithm compliance assessed and 10 paediatric staff surveyed

Diagnoses of patients with petechial rash and fever



## Results

### 2009

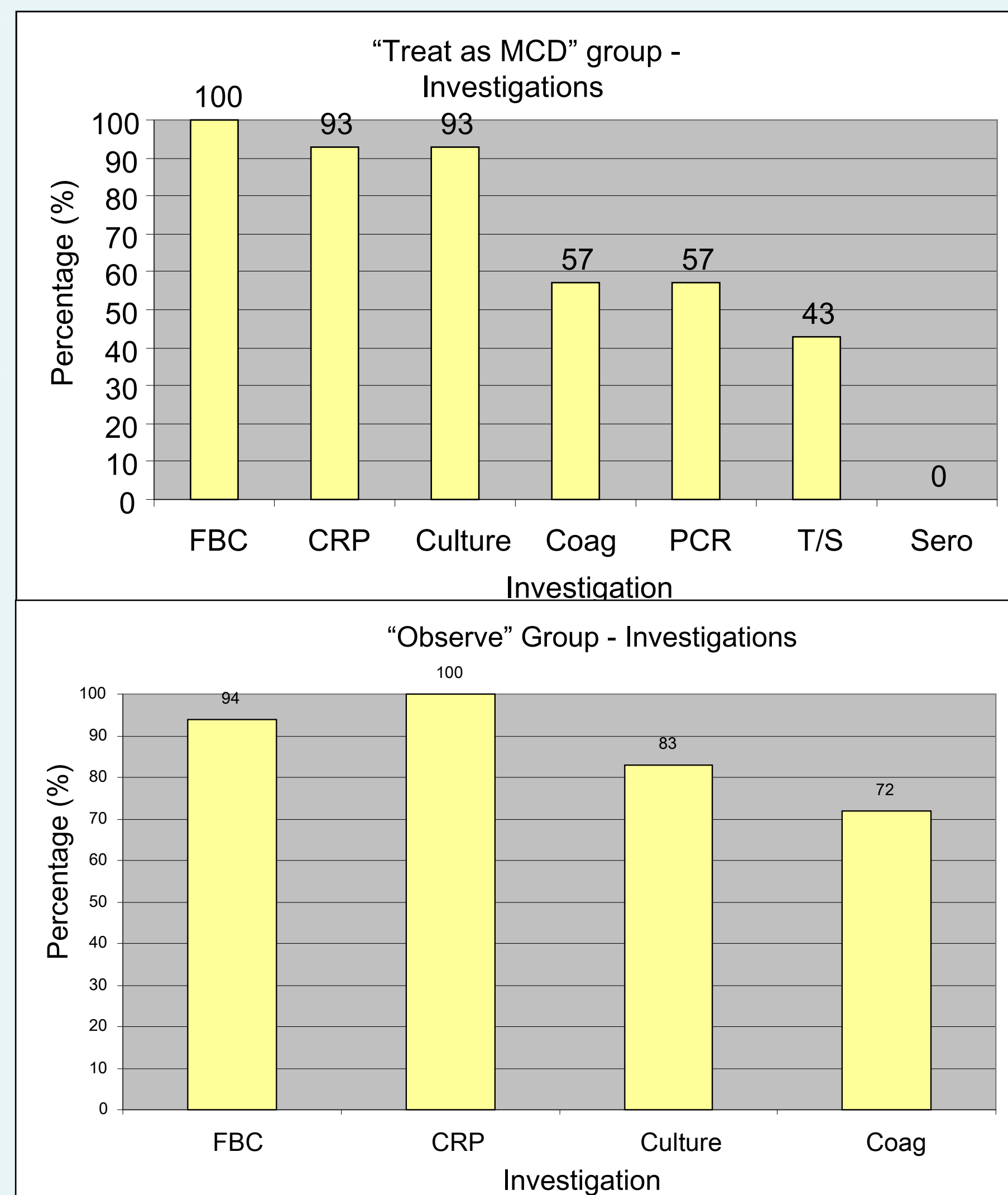
- 2 patients diagnosed with MCD
- 3 patients had a mechanical cause
- 2 out of 10 doctors used the algorithm

**“Treat as MCD” group = 14 children**

- 86 % treated with antibiotics
- Only 7 out of 12 (58%) given antibiotics at time of admission

**“Observe” group = 18 children**

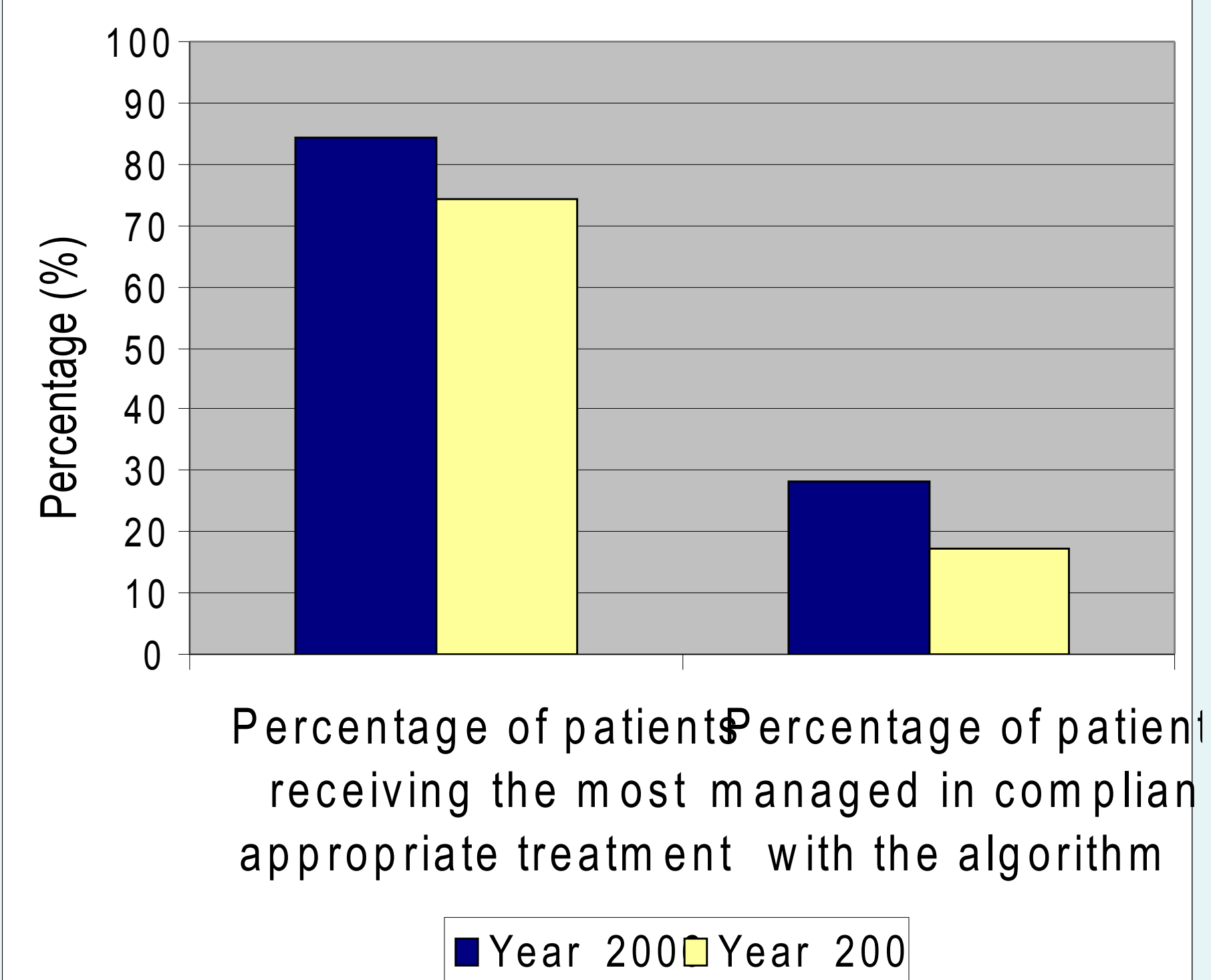
- 28% had normal investigations
- 78% given antibiotics
- 11% given antibiotics with no clear indication



## Summary

- 74% received appropriate treatment
- 17% managed as per algorithm
- 20% doctors stated they used the algorithm

Comparison of Results - 2006 \



## Aims

- To establish compliance with the algorithm by the current doctors
- To compare algorithm compliance with the previous study (2006)

## Conclusions

- **No improvement in compliance with the algorithm**
  - **Algorithm not used in assessment of pyrexial children with a petechial rash**
  - **Investigations are incomplete**
- Funding was provided by Mid Cheshire Hospitals NHS Trust