Home based and hospital based IV antibiotics for cellulitis had similar effects on clinical outcomes


Q What is the relative efficacy of home based compared with hospital based intravenous (IV) antibiotics for treatment of cellulitis?

METHODS

Design: randomised controlled trial.
Allocation: concealed.
Blinding: unblinded.
Follow up period: >4 weeks.
Setting: metropolitan Christchurch, New Zealand.

Patients: 200 patients >16 years of age, who presented to the emergency department (ED) with clinical signs of cellulitis and required IV antibiotics because of severity of cellulitis or failure of oral antibiotic treatment; were mentally competent; had a telephone at home and a caregiver nearby; and resided in metropolitan Christchurch. Exclusion criteria included pregnancy, IV treatment for cellulitis of the same site in the previous month, >2 signs of systemic sepsis (temperature >38°C or <36°C, heart rate >90 beats/min, and respiratory rate >20 breaths/min), and white blood cell count >12 x 10⁹/l or <4 x 10⁹/l and >0.1 x 10⁹/l immature neutrophils.

Intervention: all patients received a first IV dose of cephazolin, 2 g, before leaving the ED. 101 patients were allocated to home based treatment (continued IV cephazolin, 2 g, twice daily, administered by community care nurses, and daily visits from a general practitioner). 99 patients were allocated to hospital based treatment (admission to a hospital ward under the care of an on-call medical team who managed clinical treatment, including choice of ongoing IV antibiotic).

Outcomes: included days to no advancement of cellulitis, days on IV or oral antibiotics, days to discharge, days on IV or oral antibiotics, or physical functioning or pain.

Home based v hospital based intravenous (IV) antibiotics for cellulitis*

<table>
<thead>
<tr>
<th>Outcomes at &gt;4 weeks</th>
<th>Hazard ratio (95% CI)†</th>
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<tbody>
<tr>
<td>Days to no advancement of cellulitis (n = 193)</td>
<td>0.99 (0.74 to 1.34)</td>
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<tr>
<td>Days to discharge (n = 193)</td>
<td>0.95 (0.71 to 1.26)</td>
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<tr>
<td>Days on IV antibiotics (n = 193)</td>
<td>0.85 (0.64 to 1.14)</td>
</tr>
<tr>
<td>Days on oral antibiotics (n = 194)</td>
<td>1.18 (0.88 to 1.59)</td>
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*CI defined in glossary.
†Hazard ratios >1 suggest that home based treatment was faster. Analysis adjusted for age, sex, location of cellulitis (upper v lower limb), and previous antibiotic treatment.

MAIN RESULTS

The home based and hospital based care groups did not differ for days to no advancement of cellulitis, days to hospital discharge or on home care, days on IV antibiotics, or days on oral antibiotics (table). The groups did not differ for mean difference in SF-36 scores for physical functioning (−5.2, 95% CI −13.7 to 3.2) or pain (−3.8, CI −10.6 to 3.0) at day 6.

CONCLUSION

Home based and hospital based intravenous antibiotics for treatment of cellulitis did not differ for days to no advancement of cellulitis, days to discharge, days on IV or oral antibiotics, or physical functioning or pain.

Commentary

管理急性足部坏疽的IV抗生素在初级和医院护理设置中通常被视为一种选择，以减少不必要的医院入院。然而，直到现在，有关住院和初级治疗的足部坏疽的有限证据支持更换住院管理方案。Corwin等人的研究发现，与初级治疗相比，住院治疗的效率相似，这表明通过个体情况的考虑可以达到相同的效果。可能存在的问题是，虽然患者在医院接受静脉抗生素治疗，而住院患者在医院接受静脉抗生素治疗，这可能支持临床程序。尽管如此，这表明初级医生治疗决策的有效性取决于患者的个体情况。一个可以改进的方面是可以为患者提供不必要的医院入院的情况。1

Generally, home IV programmes have been found to compare favourably with inpatient care in terms of cost savings.1 The study by Corwin et al seems to be resource intensive, with daily general practitioner visits in addition to twice daily visits by nursing staff, and cost effectiveness cannot be assumed. An economic analysis would have provided useful information for implementation.

Although the groups did not differ for satisfaction with care (96% v 96%), more patients in the home based group than in the hospital based group were satisfied with the location of care (93% v 66%, p<0.001). Such information supports a move towards further development of home based services. The potential for a greater number of patients to be treated in the community by a nurse led service could be explored in further investigations into the development of treatment guidelines in conjunction with medical support.

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