

NICE TA 246: Pharmedgen for the treatment of bee and wasp venom allergy

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| 1 | <p>Name of Commissioning Team</p> <p>Specialist Services Commissioning Team</p> |
| 2 | <p>Summary of NICE TA 246</p> <p>Bees and wasps inject venom when they sting. Most people experience a burning pain, redness and swelling at the site of the sting which subsides within a few hours. A smaller proportion of people experience a systemic hypersensitivity allergic reaction, mediated by the immune system.</p> <p>Systemic hypersensitivity reactions can be mild, moderate or severe. Moderate reactions may include mild asthma, moderate angio-oedema, abdominal pain, vomiting, diarrhoea or transient hypotensive symptoms. Severe systemic reactions may include respiratory difficulty, collapse or loss of consciousness, incontinence and seizures. Anaphylaxis is defined as a severe, life-threatening systemic hypersensitivity reaction.</p> <p>Pharmedgen is recommended as an option for the treatment of immune-mediated bee and wasp sting allergy in people who have had:</p> <ul style="list-style-type: none"> • A severe systemic reaction to bee or wasp venom • A moderate systemic reaction to bee or wasp venom and who have had one or more of the following: a raised baseline serum tryptase, a high risk of future stings or anxiety about future stings <p>Treatment with Pharmedgen should be initiated and monitored in specialist centre experienced in venom immunotherapy.</p> |
| 3 | <p>Number of people in Northern Ireland expected to take up service/therapy (new cases per year)</p> <p>There is insufficient data to estimate the number of people experiencing a severe or moderate systemic reaction with one of the specified risk factors who would be referred for immunotherapy. The NICE costing statement uses the manufacturer estimate that approximately 200 people start treatment with Pharmedgen each year in the UK. Assuming that NI contains 3% of the UK population, and that use is distributed equally across the UK population, it is estimated that approximately 6 people per year will start treatment in Northern Ireland.</p> |
| 4 | <p>Outcomes</p> |

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| 4.1 | <p>Additional life expectancy gain / progress improvement</p> <p>Reduces the rate and severity of systemic reactions following a bee or wasp sting. Reduces anxiety about bee or wasp re-stings.</p> |
| 4.2 | <p>Reduction in morbidity</p> <p>Reduces the rate and severity of systemic reactions following a bee or wasp sting. Reduces anxiety about bee or wasp re-stings.</p> |
| 4.3 | <p>Cost per patient per annum</p> <p>Pharmalgen is administered in two phases: the initial phase and the maintenance phase. The initial phase involves a weekly injection for 12 weeks on an outpatient basis. The maintenance phase lasts for an average of 2 years and 9 months with an injection every 6 weeks, which totals 24 administrations. Total treatment time is 3 years. Following this Pharmalgen is considered to provide immunity for at least 15 years.</p> <p>For Bee venom the NICE costing statement estimates a total drug cost of £525, total administration cost of £4,750, and a total treatment cost of £5,275 per patient over the three year treatment course.</p> <p>For Wasp venom the NICE costing statement estimates a total drug cost of £671, total administration cost of £4,750, and a total treatment cost of £5,421 per patient over the three year treatment course.</p> |
| 4.4 | <p>In year cost per patient per annum (for new and prevalent cases)</p> <p>At an estimated six patients per year, the total treatment cost is estimated at £31,650 for Bee venom, and £32,526 for Wasp venom over the three year treatment course. This equates to approximately £10,550 per annum for Bee venom, and £10,842 per annum for Wasp venom.</p> <p>Rarely people can test positive as being allergic to both wasp and bee venom; however, they would not be treated for both. According to expert opinion, in most cases they would be treated for wasp allergy unless they worked with bees.</p> <p>It should be noted however that the cost per annum may be slightly higher in year one due to more frequent dosing (initial phase), and slightly lower in years two and three due to less frequent dosing (maintenance phase). Estimated in year costs are £13,000 in year 1, rising to £26,000 year 2 and plateau (recurrent cost) by year 3 of approximately £40,000.</p> |
| 4.5 | <p>Any cost savings and how these will be secured</p> <p>After 3 months of immunotherapy, more than 90% of people will not need to carry an adrenaline auto-injector; therefore some of the cost of</p> |

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| | <p>immunotherapy will be offset by a reduction in the number of adrenaline autoinjector prescriptions. The cost of carrying an adrenaline auto-injector for 40 years is estimated to be £1058.</p> <p>Immunotherapy could also avoid the cost of visits to accident and emergency departments, and potentially further treatment, resulting from people not using their adrenaline auto-injector after being stung and presenting with anaphylaxis.</p> |
| 4.6 | <p>Recurrent overall cost</p> <p>Pharmalgen for the treatment of venom allergy is unlikely to result in a significant resource impact. At an estimated six patients per year, the total treatment cost is estimated at £31,650 for Bee venom, and £32,526 for Wasp venom over the three year treatment course. Estimating that 80% of people will require only Wasp venom and 20% require both, the recurrent cost will be around £40,000 per annum.</p> |
| 4.7 | <p>Cost per QALY</p> <p>The initial NICE economic model showed that treatment with Pharmalgen plus an emergency kit plus avoidance advice compared with an emergency avoidance kit had an incremental cost-effectiveness ratio (ICER) of £18,065,527 per QALY gained.</p> <p>The NICE committee challenged the assumption in this model that Pharmalgen had no effect on health-related quality of life. The model was adapted to include gain in health-related quality of life associated with reduced anxiety about re-stings after treatment with Pharmalgen. In this scenario, the ICER was £13,800 per QALY gained.</p> <p>NICE concluded that for people with a high risk of stings, treatment with Pharmalgen dominated the alternatives (more effective and less costly). For people without a high risk of stings but anxiety about future stings the most plausible ICER was less than £20,000 per QALY gained.</p> |
| 4.8 | <p>Other treatments available for this condition</p> <p>Advice on avoidance of insect venom. High-dose antihistamines and/or adrenaline auto-injectors (with training before use) to be used if stung. Both treatments would be used alongside Pharmalgen however NICE estimate after 3 months of immunotherapy more than 90% of people will not need to carry an adrenaline auto-injector.</p> |
| 4.9 | <p>Readiness to implement</p> <p>Treatment with Pharmalgen should be initiated in a specialist centre experienced in venom immunotherapy. The Regional immunology Service, based in the Belfast HSC Trust provides specialist management of severe immune-mediated allergy,</p> |

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| | <p>including venom allergy. There is no requirement for additional infrastructure for Pharmedgen to be made available as a treatment choice for suitable patients who meet the NICE criteria.</p> <p>The travelling distance to the Regional Immunology Centre may be significant for some patients, and this potentially may impact on compliance. Missed doses may require previous doses to be repeated or the whole treatment course to be re-commenced. Patients should be advised that missing doses other than for clinical reasons may result in treatment cessation.</p> |
| 5 | <p>Legislative / policy caveats</p> <p>This advice does not override or replace the individual responsibility of health professionals to make appropriate decisions in the circumstances of their individual patients, in consultation with the patient and/or guardian or carer. This would, for example, include situations where individual patients have other conditions or complications that need to be taken into account in determining whether the NICE guidance is fully appropriate in their case.</p> |
| 6 | <p>What will Commissioning Team do to secure funding for the implementation of this TA including any proposals for disinvestment</p> <p>The regime has NICE approval and the estimated incidence of new patients per annum can be accommodated within the 2012/13 specialist drug budget.</p> |
| 7 | <p>Commissioning arrangements</p> <p>The treatment will be commissioned from the Belfast Health and Social Care Trust.</p> |
| 8 | <p>Monitoring arrangements</p> <p>The Belfast Health and Social Care Trust will be asked to confirm the number of new patients commenced on therapy annually. This will be reviewed by the Specialist Services Commissioning Team.</p> |