

PIPS

Probiotic in Preterm babies Study

The probiotic *Bifidobacterium breve* strain BBG-01 administered early to preterm infants to prevent infection, necrotising enterocolitis and death

Results Leaflet

Version 1.0, 18 January 2016

We are pleased to be able to tell you that the results of the PiPS trial of Probiotics in Preterm Infants have now been published. We are contacting you firstly to thank you for having helped us to make this all possible by allowing us to include your baby in the trial and secondly, to summarise the results from the trial for you. If you want the results in greater detail they are available at [http://dx.doi.org/10.1016/S0140-6736\(15\)01027-2](http://dx.doi.org/10.1016/S0140-6736(15)01027-2) together with a commentary from an independent expert.

The reasons for doing the trial

Our main aim in doing the trial was to find a way to protect babies born very early from the key complications of infection and necrotising enterocolitis (NEC). NEC is the most serious problem that affects the gut of very premature babies. Infection and NEC remain important because the number of cases has not fallen and many affected babies still die, while those babies who survive are at increased risk of problems of growth and development. We still don't fully understand why these conditions affect some babies and not others but we do know that one problem is that the lining of the gut does not provide such a good defence to infection as in more mature babies. One reason for this is that after premature birth there is delay in the gut becoming populated by friendly bacteria as happens in babies born at full term. The hope has been that if we give probiotics (strains of bacteria that offer a health benefit when given by mouth) to babies born early that they will help to strengthen the wall of the gut making it less likely that bacteria that might cause disease can enter the body.

When we began the PiPS trial there had been a small number of studies using probiotics for premature babies but they were not big enough to give clear answers. While the trial was underway there were more studies published using a range of different probiotics and some doctors were encouraged by the results and thought that we should start using them for all very premature babies. However the independent group of experts who monitored our trial thought that the evidence was not good enough to support that recommendation and that the trial should continue.

What we did

Between July 2010 and July 2013 we recruited 1,315 babies born before 31 weeks of gestation in the south of England. Half of the babies were allocated to receive the probiotic *Bifidobacterium breve* BBG-001 and half to receive an inactive product called a placebo that looked exactly the same. Nobody looking after the babies or involved with running the trial knew what any individual baby received and there were no other differences in how the babies were cared for. We collected details about the babies' progress and in particular we recorded all episodes of infection or suspected NEC.

What we found

In the group given the placebo 11% had episodes of infection, 10% had definite NEC and 8% died. The rates of infection, NEC and death in the babies allocated to receive probiotic were the same as was a wide range of other problems. The trial is big enough and the rates of infection and NEC high enough for us to be very confident that there is no benefit associated with this probiotic in these babies.

Very importantly we found no evidence of complications associated with giving the probiotic.

The results of the PiPS trial do not support the routine use of probiotics for premature babies at the present time.

We do trials when we are uncertain whether or not a treatment is helpful and it is very important that we do not use treatments that do not help.

Despite not finding benefit we have learned a great deal. The PiPS trial is bigger than other probiotic trials and because alongside the main trial we did detailed studies of whether or not the friendly bacteria were successfully living in the intestines, by growing them from the babies' stools, we now understand much better how probiotics might be used in the future.

We are very grateful for your help with this important trial.

If you would prefer a paper copy of the results, please write to

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