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A DIFFERENT VIEW

What we do in neonatal analgesia overshadows how we do it

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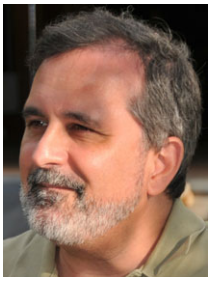

Studies on neonatal pain have skyrocketed in the last 10 years, according to a PubMed search, but pain treatment is still insufficient despite this high level of research. More than 50 pain scales have been validated and published for newborn infants, but only a few of these are used and not to any great extent (1). In addition, analgesic drugs and strategies continue to increase, but are still underused (1). This shows a gap between the data that academics produce in this field and the measures that clinicians put into practice. Researchers invite clinicians to use pain scales to assess acute pain, but these scales give the final score when the procedure is over and the pain has already been produced, with no possible remedy for the patient (2). In addition, acute pain scales are based on unrealistic situations, where the baby is absolutely calm before the stimulus and where the nurses need to simultaneously score and calculate the changes in manifold parameters, such as oxygen saturation, face and arm movements, crying time or heart rate, even though they are focused on the baby's heel or hand. Researchers also ask clinicians to use oral sucrose as an analgesic, even though their data show that it does not provide actual analgesia, but it does result in a statistically significant decrease in pain (3). Moreover, pain treatment is too often presented in a mechanistic form, as if it was only a matter of timing and tools and the correct sequence of actions and the use of sophisticated tools were enough to guarantee success. This does not exactly motivate healthcare professionals.

In Table 1, we report two random examples of this timing and tools approach, extracted from the methods section of two trials on pain treatment (4,5). Reading how clinical trials on new pain treatments describe their approach to painful manoeuvres, it seems that all the attention is on the actual procedures and limited, or no, importance seems to be devoted to basic points, such as how the babies are contained and how their parents are involved. This is even more evident when we consider that most of the babies enrolled in the control groups of clinical trials performed to study new analgesic treatments, do not receive any analgesic treatment for painful procedures (6), even though these treatments are commonly used in clinical practice.

This is a problem for many medical sectors, as the rapid availability of a plethora of clinical and laboratory tools leads to a false sense of safety and a much greater reliance on laboratory results. Paradoxically, this can reduce clinical alertness, such as the need for a careful clinical visit. We call it the sport utility vehicle paradox: driving a sport utility vehicle seems to increase safety, with its shields and safety tools, but an excessive feeling of safety can simultaneously reduce the driver's attention and cause unnecessary accidents. This is the risk in neonatal analgesia: if clinicians are falsely reassured by the numerous and detailed tools we have at our disposal, such as new types of lancets, or by numerous and complicated pain scales or brand new procedures, we can forget that the first analgesic tool is how we approach the baby. To date, neonatal care and pain treatment have been two parallel words: this is the moment to bring them together into a virtuous alliance.

Neonatal research on pain treatment needs to reflect what actually happens in neonatal clinics, and it is not enough to focus on just the timing and tools. We need to consider what the baby needs during a painful procedure and this means developing an insight into the baby, on the whole procedure and on the baby's overall state and family. Some call it gestalt, where a skilled overview of all the elements is more than just the sum of its parts (7), which is the basis of modern neonatal care. Gestalt already has several clinical applications in paediatric care. It is used in

Table 1 Description of the methods for performing a heel prick in two randomly chosen trials

Badiee et al. described the analgesic effect of cobedding: 'Newborns in the cobedding group were placed side by side in an incubator without any clothing except for diapers so that they could touch each other freely, with each side of the incubator pertaining to one twin. The incubator temperature was adjusted according to the weight, gestational age, and postnatal age of newborns. Each infant's axillary temperature was closely monitored and maintained between 36.8°C and 37.2°C for both groups. Blood sampling was performed in a standardized manner by expert technicians who could not be blinded to the study. The same technician held up each baby's heel, pricked it to collect the blood sample, and applied an adhesive bandage to the heel immediately afterward. Data were collected just once for each infant.' (4).

Ecevit et al. described the analgesic effect of breast milk: 'The patients were administered 2 mL/kg expressed breast milk 2 min before the procedure, as a routine of the NICU, and all patients received non-nutritive sucking with a pacifier during the procedure. All heel pricks were done by the same person. The blood sample was taken with a capillary tube (Kunststaff kapillareit, 9 × 100 mm), after cleaning the skin with 70% alcohol, lancing the lateral portion of the heel (30 gauges), and gently squeezing the heel.' (5).

As in similar trials, all the attention is devoted to the babies' posture and temperature, as well as the timing and the tools of the procedures. Notice the lack of information about the presence or absence of the parents, further soothing procedures and the attention to the environment: quiet or noisy, bright or dim lighted.

neurological assessments, when the clinicians examine general movements and use their intelligence, experience and observation to identify stereotyped or fluid movement without using any measures. It is also used in Brazelton's neurological assessment, which was originally created to promote mothers' awareness of the development and skills of their baby, and in family-centred and baby-centred care, such as the well-known Newborn Individualized Developmental Care Assessment Program.

In the case of neonatal analgesia, gestalt involves three points. First, skilled observation makes medical staff choose the best moment and environment for painful manoeuvres using observation and skill. Second, familiarity with the baby makes it possible to avoid unnecessary routine stress. Third, environmental analgesic strategies that require medical staff to respect the physiological mother–infant relationship are more effective than mere oral sucrose, for example using breastfeeding or sensorial saturation to promote a multisensory and humanised approach (8,9).

A further application of gestalt is that we need to find an equilibrium between scoring pain and preventing pain, while scoring currently seems to have the greatest importance. This also means choosing to detect pain rather than scoring it, as detecting pain with a yes-or-not method recently proposed (10) is often enough for clinical use, considering the limits of current pain scales (11).

We recently proposed a pain detection-based method based on two steps. The first step is analysing if the stimulus we are going to use is likely to produce general pain or pain in the part of the body we are focusing on. The second is detecting pain using simple indicators, such as the onset of crying or increasing heart rate, which are not specific for pain, but are a good indicator if they arise in connection with an intervention (10). However, our criticism of pain scales is limited to those scales that score acute pain. Those that score long-term pain, such as in babies who have undergone surgery, actually have a clinical use, as they can be used to modulate the use of analgesic drugs. There are a lot fewer of these types of pain scales than acute pain scales, as they have a reputation for good standards and good clinical uses (1).

The gestalt approach has several positive effects when it comes to treating pain in newborn infants. It has an analgesic effect, because it reduces useless manoeuvres and rationalises the use of analgesics (8). It consequently improves brain development and prevents brain damage due to stress, as magnetic resonance imaging (12) studies on the Newborn Individualized Developmental Care Assessment Program have shown.

A gestalt-based approach also takes into account that the newborn baby has a certain degree of self-awareness (13), which makes him or her interact using a nonverbal dialogue that should direct and modulate the way that medical staff treat them. This self-awareness also produces a form of protolanguage, and clinicians should use their empathy and professional skill to detect it. However, pain must be avoided in babies, even though the damage that pain can produce were independent from babies' consciousness.

Anand wrote that 'Whereas evidence-based medicine informs 'what' we can do for our patients, 'how' we are providing this care may be equally important. This includes not only the actual details of care delivery but also the attitude, feelings, and emotional state of professional caregivers at the time of patient interactions. Interventions performed without empathy, mechanically, or while distracted by other concerns may be less effective than those imbued with love and care for the patient's well-being' (8). That is the point: if we rely too much on technical, albeit advanced details without a gestalt approach, we may lose sight of the patient and produce bad analgesia.

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