

BabyGaze: A Rapid Neurobiological Intervention for Anxiety, Panic and AngerAndrew J Ashworth^{1*} and Philip V Dutton²¹Breich Valley Medical Practice, Partnership Centre, Lanrigg Road, Fauldhouse EH47 9JD Scotland UK.²Synapse, Clinical Psychology, Edinburgh, Scotland***Corresponding author**

Andrew J. Ashworth, MRCP, Breich Valley Medical Practice, Partnership Centre, Lanrigg Road, Fauldhouse EH47 9JD Scotland UK

Submitted: 08 July 2017; **Accepted:** 22 July 2017; **Published:** 29 July 2017**Abstract**

A method of rapid attenuation of symptoms of anxiety, panic and anger is described using interoception combined with stimulation of the third and fourth cranial nerves by the subject.

The proposed method by which BabyGaze interrupts a neurological feedback loop via direct stimulation of the Edinger-Westphal Nucleus (the rostral-most parasympathetic nucleus) in the brainstem is illustrated.

Attenuation of interoceptive (physical) symptoms typically occurs in less than 5 minutes with associated elimination of psychological symptoms. Having learnt the method, it can be carried out by the patient without further therapeutic intervention. This method has been used in a Scottish General Practice now for over 12 months with associated reduction in prescribing and referral to mental health services.

Keywords: Anxiety, Anxiety disorders, Panic, Panic disorders, Anger management therapy.

Epidemiology

Anxiety Disorders defined by ICD IV have a lifetime prevalence of 28.8% and a point prevalence of 7.3% [1, 2]. For a General Practitioner seeing 40 patients daily, three are likely to have an anxiety disorder, perhaps in addition to their presenting complaint. Anxiety can also occur as a temporary disabling common reaction.

Treatment

The time constraints of General Practice (UK doctors have 10 minutes to consult with each patient) make counseling interventions difficult to deliver and so pharmacological treatments and referrals to others have become common practice.

Psychobiology

Anxiety may be understood in the context of 'The natural history of recovery from trauma', as described in the Snakes & Ladders model [3].

Neurophysiology

An 'anxiety positive feedback loop' is proposed (see **Figure 1**) involving an efferent pathway (from the cortex) via the limbic system, Amygdala, Amygdalo-fugal and sympathetic nervous system to the viscera [4]. There is also an afferent interoception pathway from the viscera via the spino-thalamic tract, the spino-reticular and spino-tegmental tracts and on to the ventromedial Prefrontal Cortex which senses and rationalizes visceral information that has been found to be recruited in association with anxiety in misophonia [5].

It is further proposed that when interoceptive information is collated with proprioceptive information leading to unexplained visceral stimulation in the absence of danger, the information is frequently interpreted as fear or anger.

These feelings can then act as additional limbic triggers, completing a positive feedback loop.

In panic disorder the connection from the Periaqueductal Grey to the Amygdala acts as an "overflow", bypassing cortical controls and producing an innate fear response in a 'panic positive feedback loop' [6].

Both positive feedback loops can be interrupted by increased visceral parasympathetic activity, balancing interoception by neutralizing unopposed sympathetic activity.

10 Minute Treatment

Neonates have a typical "up and out" gaze 'BabyGaze' that involves recruitment of the III & IV Cranial Nerves that juxtapose the most rostral parasympathetic (Edinger-Westphal) nucleus in the brainstem. Treatment by teaching BabyGaze to adult patients has been reported as effective in a Scottish General Practice [7]. A local Community Psychiatric Nurse reported a reduction in referrals from a practice where there was reduced demand for prescribing after BabyGaze was used for 12 months by one of the GPs (for adults, adolescents and children). Patients also reported BabyGaze to be superior to benzodiazepines for flight anxiety.

BabyGaze Methodology

This intervention requires the patient being able to feel anxious (or

angry). Most people can do this when asked to draw on a concern that is real for them. They are then asked to locate the feeling in their body, with emphasis on the thorax and abdomen so that visceral interoception is encouraged. If patients report difficulty with interoception it can be taught. To establish progress, it is helpful to ask the patient to gauge the severity of the body feeling using a 0-10 SUD scale [8]. The severity of the initial body feeling might be small but it aids understanding, acceptance and helps confirm a result.

To assist appropriate eye-position, an extendable pointer is helpful. Then establish which side works best by testing each direction for about 10 - 15 seconds and asking for patient to decide whether left or right is most comfortable to continue with. Continue re-scoring at one minute intervals until the SUD score is zero, encouraging focus on the body (avoiding cognitive activity as necessary).

Resolution typically occurs in less than 5 minutes and the patient often expresses surprise at the lack of anxiety or anger. Patients commonly report a feeling of indifference towards the original stimulus. Patients are informed that eye-position is the important element; the technique can be used without a visual target, with eyes open or closed, making the method efficacious in middle insomnia. In a small number of patients where response is slow, pendulation between left and right eye positions can be effective.

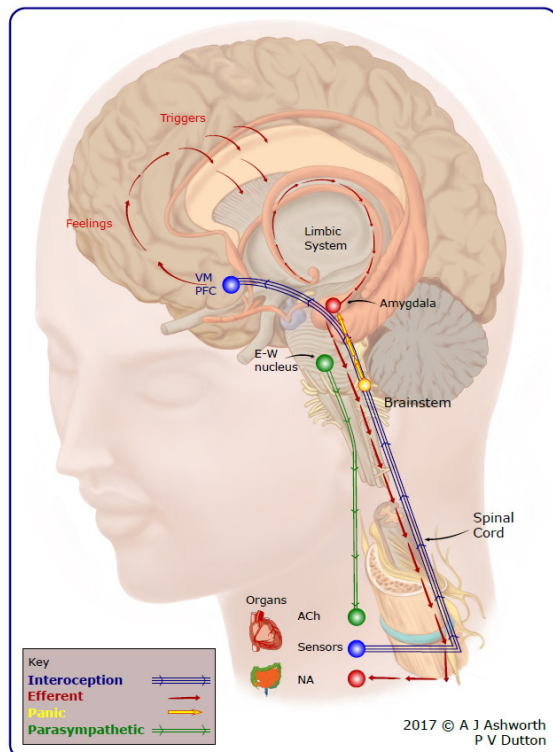
Conclusion

Anxiety is a common condition that can be treated pharmacologically, psychologically or biologically. In the short appointments available to GPs only prescribing, referral on and BabyGaze are practical, the former requiring follow up and greater expense, the latter empowering the patient at low cost.

There is a need for further research, including fMRI studies of the E-W nucleus during BabyGaze and controlled clinical trials.

References

1. Kessler RC1, Berglund P, Demler O, Jin R, Merikangas KR, et al. (2005) Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry 62: 593-602
2. Kessler RC, Ruscio AM, Shear K, Wittchen HU (2010) Epidemiology of anxiety Disorders. Curr Top Bev Neurosci 2: 21-35.
3. Dutton PV, Ashworth AJ (2015) The natural history of recovery from psychological trauma: an observational model. Medical Hypotheses 85: 588-590.
4. Elizabeth I. Martin, Kerry J. Ressler, Elisabeth Binder, Charles B. Nemeroff (2009) The Neurobiology of Anxiety Disorders: Brain Imaging, Genetics and Psychoneuroendocrinology. Psychiatr Clin North Am 32: 549-575.
5. Sukhbinder Kumar, Olana Tansley-Hancock, William Sedley, Joel S. Winston, Martina F. Callaghan, et al. (2017) The Brain Basis for Misophonia. Current Biology 4: 527-533.
6. Rizvi TA, Ennis M, Behbehani MM, Shipley MT (1991) Connections between the central nucleus of the amygdala and the midbrain periaqueductal gray: Topography and reciprocity. J Comp Neurol 303: 121-131.
7. Ashworth AJ, Dutton PV (2016) BabyGaze : A neurobiological method of anxiety relief in trauma. Open Access Text 1: 36-39.
8. Wolpe, Joseph (1969) The Practice of Behavior Therapy, New York: Pergamon Press, ISBN 0080065635.



Figure

Copyright: ©2017 Andrew J Ashworth and Philip V Dutton. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.