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Non-organic (Functional)Voice Disorders

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Introduction

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Etiological Classification Of Voice Disorders:

1-Organic.

2- Non-Organic (functional).

3- Benign vocal fold lesions (MAP Lesions).

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Pre-requisites of Normal Voice Production:

1. Proper respiratory support and control.
2. Normal range of movement of the vocal folds.
3. Optimal force of closure of the glottis.
4. Proper timing of glottic closure in relation to onset of phonatory expiration.

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Pre-requisites of Normal Voice Production (CONT.) :

5. Optimal muscular tuning of vocal fold tension.
6. Smooth edge of the vocal folds.
7. Proper sliding of the covering mucosa over the hard muscle core of the vocal fold.

Non-organic voice disorders?

- The presence of a voice problem in the absence of any detectable organic pathology in the larynx, probably due to faulty use of a healthy larynx.

Pathophysiology of Non-Organic Voice Disorders:

(1) Faulty respiration:

- The most efficient breathing pattern is abdominal breathing.
- A rapid inspiration and long expiration are needed.
- Respiratory time must be regulated to match the vocal effort needed.

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Pathophysiology (Cont.):

(2) Faulty force:

- Excess muscle force (strain) for prolonged periods of time leads to weakness of muscles and ends in vocal fatigue.

(3) Faulty timber:

- Optimal voice quality is achieved by a soft glottal attack. Faulty ones are produced by hard glottal attacks.

Pathophysiology (Cont.):

(4) Faulty pitch and register transitions:

- An optimal pitch is the pitch that produces the clearest and most efficient voice with the least amount of effort.
- Prolonged faulty higher pitches end in vocal nodules, while prolonged faulty lower pitches end in contact granuloma.

Predisposing factors:

- Vocal abuse and misuse behaviors.
- Smoking, either active or passive.
- Environmental pollution.
- Psychological emotional stress.
- Biological factors.

Vocal abuse:

Excessive and improper use of voicei.e voice overuse.

1-Screaming.

2-Throat clearing and coughing.

Vocal misuse:

i.e. faulty behaviors.

Classification

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Classification of Non-organic Voice Disorders:

I. **Habitual.**

II. **Psychogenic.**

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I. Habitual Non-organic Voice Disorders:

(1) Hyperfunctional childhood dysphonia.

(2) Mutational voice disorder.

(3) Hyperfunctional dysphonia.

(4) Hypofunctional dysphonia.

(5) Phonaesthenia.

(6) Ventricular dysphonia.

(7) Habitual aphonia.

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II. Psychogenic Non-organic Voice Disorders:

(1) Psychogenic aphonia/dysphonia.

(2) Voice disorders accompanying psychiatric diseases.

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3. Habitual Non-organic Voice Disorders

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(1) Habitual Childhood Dysphonia:

- **Predisposing factors**:

  Temperamental children abusing their voices due to hyperactivity, emotional reactivity and family problems.

- **Incidence**: more in boys than in girls.

(1) Habitual Childhood Dysphonia:

- **Symptoms**: usually by the parents, since the child is unaware of the problem.
- **Voice**: dysphonic, strained and leaky.
- **Treatment:** Differs according to age.

(2) Mutational Voice Disorders:

- **Predisposing factors**:
  *Inability to adapt to or accept a rapidly developing mature deep voice, which seems ugly to him.
  *Subconscious refusal of adulthood responsibilities.
- **Symptoms**: weak voice.

(2) Mutational Voice Disorders (Cont.):

- **Voice**: High-pitched falsetto, diplophonia, register breaks.
- **Local pathology**: normal larynx.
- **Treatment**: reassurance, voice therapy and self-monitoring.

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(3) Hyperfunctional Dysphonia:

- **Predisposing factors:**

  *Prolonged vocal misuse and abuse.

  *Professional voice users as: singers, actors, teachers, lawyers,……..

- **Symptoms**: change of voice, phonaesthenic symptoms.
- **Voice**: dysphonic, strained, leaky, low-pitched, voice breaks.

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(3) Hyperfunctional Dysphonia (CONT.):

- **Local pathology**:

*Normal.

*Hyperemic, swollen vocal folds, increased secretions.

*Variable degrees of minimal glottic waste.

(3) Hyperfunctional Dysphonia (CONT.):

- **Local pathology (cont.):**

*Excess ventricular adduction, and even contraction of supralaryngeal structures on phonation.

*Contracting neck muscles, thus engorged neck veins and elevated chest and shoulders.

- **Treatment**: voice therapy.

(4) Hypofunctional Dysphonia:

- **Predisposing factors**:

*Prolonged hyperfunctional dysphonia leading to disturbed motor control of the larynx and muscle fatigue.

*Some patients start their day by hyperfunction and end it by hypofunction.

- **Symptoms**: change of voice, weak voice, easy fatigability.

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(4) Hypofunctional Dysphonia (CONT.):

- **Voice**: breathy, asthenic, soft glottal attack.
- **Local pathology**:

  *Normal.

  *phonatory waste.
- **Treatment**: voice therapy.

(5) Phonaesthenia:

- **Predisposing factors**:

*Vocal abuse and misuse.

- **Symptoms**:

*Voice fatigue after prolonged use.

*Soreness, dryness, tenderness of throat.

*Frequent hawking and thick secretions.

(5) Phonaesthenia (CONT.):

- **Voice**: Normal.
- **Local pathology**:

  *Normal.

  *May be hyperemia, or phonatory waste.
- **Treatment**: voice therapy.

(6) Ventricular Dysphonia:

- **Predisposing factors**:

  *Hypertrophy of the false vocal folds due to prolonged laryngeal irritation.

  *Secondary compensatory hypertrophy.

- **Symptoms**: change of voice, voice fatigue.
- **Voice**: strained, leaky, deep (low-pitched).

(6) Ventricular Dysphonia (CONT.):

- **Local pathology**:

*Hypertrophied congested ventricular bands, covering the vocal folds on phonation and even sharing in phonation with apparent stroboscopic vibrations.

- **Treatment**:

* Voice therapy.

*Surgical reduction.

(7) Habitual Non-organic Aphonia:

- **Predisposing factors**:

  *Acute laryngitis.

  *Psychic trauma.

  *Operative intervention as aftet tonsillectomy.

  * Glottal waste absent proprioceptive feedback from vocal folds contact avoiding vocal fold adduction becomes habitual.

(7) Habitual Non-organic Aphonia (CONT.):

- **Symptoms**: Lost voice.
- **Voice**:
  * Aphonic.
  * Hyperfunctional or hypofunctional whisper.
  * Normal cough, laughter and crying.
- **Local pathology**: only defective phonatory closure at the glottis.
- **Treatment**: Reassurance, voice therapy.

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II. Psychogenic Non-organic Voice Disorders

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Psychogenic Dysphonia/ Aphonia:

- Psychoneurotic reaction (Conversion Reaction) in which avoidance of emotional conflict, stress or personal failure is met by unconscious stimulation of voice disorder.

- Presence of primary gain and secondary gain)

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Psychogenic aphonia:

Patients lose their voices completely and articulate in a whispered stream.

Psychogenic Dysphonia:

Phonation is preserved, but disturbed in quality, pitch and or loudness.

A predominantly female condition.

Pychogenic Mechanism:

- The human voice is the valve of emotion and a window to peronality.
- Almost every one experience changes in his voice when there are life stresses.
- For most people the change is situationally specific and does not develop into a long term loss of normal voice production.

- When a person remains dysphonic or aphonic without evidence of organic pathology, the condition is described as psychogenic dysphonia/ aphonia.

Assessment

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Assessment of Non-organicVoice Disorders:

- Goals:

  *To reach proper etiological diagnosis.

  *To determine degree & nature of problem.

  *To plan intervention program.

  *To monitor efficacy of intervention & follow-up.

Assessment of Non-Organic Voice Disorders:

- Detailed case history, auditory perceptual assessment of voice and simple clinical examination.
- Documentation by laryngovideo-stroboscopy, and high fidelity audio-recording.
- Acoustic analysis (MDVP).
- Aerodynamic analysis.

Management

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Management:

- **Vocal hygiene advice.**
- **Voice therapy.**

Management:

***Goal:**

to achieve the best possible co-ordination between breathing, voicing, and articulation.

***Principle:**

training the normal functions of the glottis thus deviating the patient's interest from faulty to normal healthy habit.

Thank you